

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Qing Xu Examiner #: 77924 Date: 1/29/04
 Art Unit: 1775 Phone Number 30 2-1546 Serial Number: 09/529 289
 Mail Box and Bldg/Room Location: ROM 5060 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: <u>EL</u>	NA Sequence (#) _____	STN <u>\$ 172.64</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic <u>✓</u>	Dr.Link _____
Date Completed: <u>1-30-04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>10</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>75</u>	Other _____	Other (specify) _____

SEARCH REQUEST FORM

Scientific and Technical Information Center

Examiner# : 77924

Art Unit : 1775

Phone Number: 272-1546

Date: 1/29/2004

Serial Number: 09/529,289

MailBox & Bldg/Room Location: Remsem 5D60

Results Format Preferred (circle): Paper Disk E-mail

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the coversheet, pertinent claims, and abstract.

Title of Invention:

Coating system for substrates

Macromelt 6240

Inventors (please provide full names):

Yaakov Almog, Sergio Brandriss

PCT IL 97/00391

Earliest Priority Filing Date: 10/12/1997

IL 98/00491

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search the substrate recited in claim 1, which comprises a sheet of plastic, an underlayer coating comprising amine terminated polyamide, and an overlayer directly on the under layer comprising a second polymer material (image receiving or recording layer), especially the amine terminated polyamide containing layer.

Please call me if you have any questions.

Thanks

Wen Xu

6240
6239

6238 6240
M 6747 6245

6301

6768

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=> file reg

FILE 'REGISTRY' ENTERED AT 20:15:41 ON 30 JAN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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=> display history full 11-

FILE 'LCA' ENTERED AT 19:03:59 ON 30 JAN 2004

L1 20 SEA (AMINE# OR AMINO#) (2A) (TERMINAT? OR ENDGROUP? OR
ENDCAP? OR ENDBLOCK? OR END(2A) (GROUP? OR GRP# OR CAP OR
CAPS OR CAPPED OR CAPPING# OR BLOCK?))
L2 3 SEA L1(3A) (POLYAMIDE# OR POLY(A) (AMIDE# OR AMIDO#) OR
POLYAMIDO#)
L3 23 SEA (PLASTIC? OR THERMOPLASTIC? OR THERMOSET?) (2A) SHEET?
L4 12 SEA (VINYL## OR POLYVINYL## OR POLYCARBONATE# OR PET OR
TEREPHALATE# OR TEREPHTHALATE# OR POLYETHYLENETEREPTHALA
TE# OR POLYETHYLENETEREPTHALATE# OR POLYTEREPHTHALATE#
OR POLYTEREPHTHALATE#) (2A) SHEET?
L5 7647 SEA (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR
OVERLAID? OR LAMIN? OR LAMEL? OR SHEET? OR LEAF? OR
FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR
SHEATH? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR
OVERSPREAD?) /BI, AB
L6 6543 SEA FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR OVERLAID?
OR LAMIN? OR LAMEL? OR COAT? OR TOPCOAT? OR OVERCOAT?
OR UNDERCOAT? OR VENEER? OR SHEATH? OR ENSHEATH? OR
ENCOAT? OR COVERING# OR ENVELOP? OR ENCAS? OR ENWRAP? OR
OVERSPREAD?

FILE 'HCA' ENTERED AT 19:18:55 ON 30 JAN 2004

E COATING MATERIALS/CV
L7 241817 SEA "COATING MATERIALS"/CV
E COATING PROCESS/CV
L8 108367 SEA "COATING PROCESS"/CV
E COATINGS/CV
L9 7702 SEA COATINGS/CV
L10 416 SEA L1(3A) (POLYAMIDE# OR POLY(A) (AMIDE# OR AMIDO#) OR
POLYAMIDO#)
L11 13643 SEA (PLASTIC? OR THERMOPLASTIC? OR THERMOSET?) (2A) SHEET?
L12 6753 SEA (VINYL## OR POLYVINYL## OR POLYCARBONATE# OR PET OR
TEREPHALATE# OR TEREPHTHALATE# OR POLYETHYLENETEREPTHALA
TE# OR POLYETHYLENETEREPTHALATE# OR POLYTEREPHTHALATE#
OR POLYTEREPHTHALATE#) (2A) SHEET?
L13 29966 SEA TONER# OR PHOTOCOPY? OR PHOTOCOPIED OR PHOTOCOPIER?
OR PHOTOREPRODUC? OR REPROG# OR REPROGRAPH?

L14 112565 SEA PRINTING# OR PRINT? (2A) (PLATE OR PLATES)
L15 1 SEA L10 AND (L11 OR L12)
L16 2 SEA L10 AND L13
L17 10 SEA L10 AND L14
L18 30 SEA L10 AND (L7 OR L8 OR L9)
L19 131 SEA L10 AND L6
L20 107795 SEA OVERCOAT? OR OVERLAYER? OR TOPCOAT? OR OVERFILM? OR
TOPFILM? OR TOPLAYER? OR (OVER OR TOP OR UPPER?) (2A) (FILM
? OR COAT? OR LAYER?)
L21 88963 SEA UNDERCOAT? OR UNDERLAYER? OR UNDERFILM? OR SUBCOAT?
OR (UNDER? OR SUB OR BOTTOM? OR LOWER?) (2A) (COAT? OR
LAYER? OR FILM?) OR BOTTOMCOAT? OR BOTTOMLAYER? OR
BOTTOMFILM? OR SUBLAYER? OR SUBFILM?
L22 4 SEA L19 AND L20
L23 5 SEA L19 AND L21
L24 582027 SEA PLASTIC? OR THERMOPLASTIC? OR THERMOSET?
L25 103 SEA L10 AND L24
L26 1 SEA L25 AND (L11 OR L12)
L27 1 SEA L25 AND L13
L28 3 SEA L25 AND L14
L29 6 SEA L25 AND (L7 OR L8 OR L9)
L30 2 SEA L25 AND L20
L31 1 SEA L25 AND L21
L32 QUE RECORD? OR IMAGE# OR IMAGING# OR PHOTOIMAG?
L33 4 SEA L19 AND L32
L34 2 SEA L25 AND L32
L35 9 SEA L10 AND L32
L36 18 SEA L15 OR L16 OR L22 OR L23 OR L26 OR L27 OR L28 OR L29
OR L30 OR L31 OR L33 OR L34 OR L35
L37 5 SEA L17 NOT L36
L38 22 SEA L18 NOT (L36 OR L37)

FILE 'JAPIO, WPIX' ENTERED AT 20:06:57 ON 30 JAN 2004

L39 27 SEA L1(3A) (POLYAMIDE# OR POLY(A) (AMIDE# OR AMIDO#) OR
POLYAMIDO#)
L40 154 SEA L1(3A) (POLYAMIDE# OR POLY(A) (AMIDE# OR AMIDO#) OR
POLYAMIDO#)

TOTAL FOR ALL FILES

L41 181 SEA L2
L42 193383 SEA PLASTIC? OR THERMOPLASTIC? OR THERMOSET?
L43 666029 SEA PLASTIC? OR THERMOPLASTIC? OR THERMOSET?

TOTAL FOR ALL FILES

L44 859412 SEA PLASTIC? OR THERMOPLASTIC? OR THERMOSET?
L45 2 SEA L39 AND L42
L46 47 SEA L40 AND L43

TOTAL FOR ALL FILES

L47 49 SEA L41 AND L44

FILE 'WPIX' ENTERED AT 20:10:29 ON 30 JAN 2004
 L48 42463 SEA L3 OR L4
 L49 65673 SEA TONER# OR PHOTOCOPY? OR PHOTOCOPIED OR PHOTOCOPIER?
 OR PHOTOREPRODUC? OR REPROG# OR REPROGRAPH?
 L50 212952 SEA PRINTING# OR PRINT? (2A) (PLATE OR PLATES)
 L51 128181 SEA OVERCOAT? OR OVERLAYER? OR TOPCOAT? OR OVERFILM? OR
 TOPFILM? OR TOPLAYER? OR (OVER OR TOP OR UPPER?) (2A) (FILM
 ? OR COAT? OR LAYER?)
 L52 92062 SEA UNDERCOAT? OR UNDERLAYER? OR UNDERFILM? OR SUBCOAT?
 OR (UNDER? OR SUB OR BOTTOM? OR LOWER?) (2A) (COAT? OR
 LAYER? OR FILM?) OR BOTTOMCOAT? OR BOTTOMLAYER? OR
 BOTTOMFILM? OR SUBLAYER? OR SUBFILM?
 L53 3 SEA L46 AND L48
 L54 3 SEA L46 AND L49
 L55 3 SEA L46 AND L50
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 L57 4 SEA L46 AND L52
 L58 6 SEA L53 OR L54 OR L55 OR L56 OR L57

=> file japi
 FILE 'JAPIO' ENTERED AT 20:15:55 ON 30 JAN 2004
 COPYRIGHT (C) 2004 Japanese Patent Office (JPO)- JAPIO
 FILE LAST UPDATED: 7 JAN 2004 <20040107/UP>
 FILE COVERS APR 1973 TO SEPTEMBER 30, 2003

=> d 145 1-2 ibib abs ind

L45 ANSWER 1 OF 2 JAPIO (C) 2004 JPO on STN
 ACCESSION NUMBER: 2003-181984 JAPIO
 TITLE: RUBBER LAMINATE
 INVENTOR: HOSHI MITSUNORI; KOYAKATA KEISUKE; WATANABE
 KAZUO
 PATENT ASSIGNEE(S): FUJIKURA RUBBER LTD
 PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2003181984	A	20030703	Heisei	B32B025-08

APPLICATION INFORMATION

STN FORMAT:	JP 2001-387300	20011220
ORIGINAL:	JP2001387300	Heisei
PRIORITY APPLN. INFO.:	JP 2001-387300	20011220
SOURCE:	PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2003	

AN 2003-181984 JAPIO

AB PROBLEM TO BE SOLVED: To provide a rubber laminate which is constituted by bonding a **thermoplastic** resin and a rubber without using an adhesive.

SOLUTION: An ethylene-propylene copolymer prepared by copolymerizing a styrene-butadiene rubber, an ethylene-propylene-diene three-dimensional polymer and an acid component, one kind or more of rubbers selected from a nitrile rubber prepared by copolymerizing the nitrile rubber, a hydrogenated nitrile rubber and the acid component, an ACM rubber, a fluororubber and a silicone rubber, and a **thermoplastic** resin film selected from a polyphenylene ether and a **polyamide** having an **amino group** in the **end**, are bonded on the occasion of vulcanizing the rubber. Since the **thermoplastic** resin film is bonded by vulcanization of the rubber, without using the adhesive, a chemical reaction occurs between a vulcanizing agent and the **thermoplastic** resin component and the rubber and the **thermoplastic** film can be bonded excellently without using the adhesive, while a peel strength is also made excellent.

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IC ICM B32B025-08

L45 ANSWER 2 OF 2 JAPIO (C) 2004 JPO on STN

ACCESSION NUMBER: 1987-022829 JAPIO

TITLE: PRODUCTION OF POLYAMIDE OF HIGH DEGREE OF POLYMERIZATION

INVENTOR: INADA HIROO; HARA SHIGEYOSHI

PATENT ASSIGNEE(S): TEIJIN LTD

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 62022829	A	19870131	Showa	C08G069-48

APPLICATION INFORMATION

STN FORMAT: JP 1985-161059 19850723

ORIGINAL: JP60161059 Showa

PRIORITY APPLN. INFO.: JP 1985-161059 19850723

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1987

AN 1987-022829 JAPIO

AB PURPOSE: To obtain a polyamide of a high degree of polymerization easily and rapidly, by increasing the MW of an **amino group-terminated polyamide** by reacting it with a bislactone compound.CONSTITUTION: An **amino group-terminated****polyamide** is reacted by heating with at least either of the bislactones of formulas I and II to increase the MW of the

polyamide. In the formulae, D is a tetravalent organic group which makes each of the ring structures five- or six-membered, R<SB>1</SB> is H, or a monovalent organic group, R<SB>2</SB> is a monovalent organic group, R<SB>3</SB> is a bivalent organic group which makes each of the ring structures five- or six-membered, R<SB>4</SB> is a bivalent organic group and all of said organic groups are those unreactive with the polyamide. The polyamide used is **thermosetting** preferably, **thermoplastic** having a m.p.<=350°C.

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IC ICM C08G069-48

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FILE 'WPIX' ENTERED AT 20:16:52 ON 30 JAN 2004

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FILE LAST UPDATED: 28 JAN 2004 <20040128/UP>

MOST RECENT DERWENT UPDATE: 200407 <200407/DW>

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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L58 ANSWER 1 OF 6 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-077000 [08] WPIX

DNN N2003-059714 DNC C2003-020156

TI **Thermoplastic** block copolymers with poly(meth)acrylate and polyamide segments, used for production of fibres, film, mouldings and hot-melt adhesives or as coupling agents for polyamides and acrylics or polycarbonates.

DC A14 A23 A84 A88 A89 P73 V07 W01

IN HOFF, H; HOFFMANN, B

PA (INVE) EMS-CHEM AG

CYC 26

PI DE 10136286 A1 20020912 (200308)* 14p C08G063-68

WO 2002074836 A1 20020926 (200308) DE C08G081-02

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

W: AU BR CN JP KR US

EP 1363965 A1 20031126 (200380) DE C08G081-02

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

ADT DE 10136286 A1 DE 2001-10136286 20010725; WO 2002074836 A1 WO 2002-EP1858 20020221; EP 1363965 A1 EP 2002-722116 20020221, WO 2002-EP1858 20020221

FDT EP 1363965 A1 Based on WO 2002074836

PRAI DE 2001-10108911 20010223

IC ICM C08G063-68; C08G081-02

ICS B32B027-28

AB DE 10136286 A UPAB: 20030204

NOVELTY - **Thermoplastic** block copolymers with poly(meth)acrylate and polyamide segments, derived from:

- (I) poly(meth)acrylate-diols;
- (II) polyamide-dicarboxylic acids; and
- (III) other diols or diamines.

DETAILED DESCRIPTION - **Thermoplastic** block copolymers of formula (A), containing the following segments (wt. %):

(I) optionally imidated poly(meth)acrylate-diol(s) (HO-A-OH) of formula (1) (15-70);
 (II) polyamide-dicarboxylic acid(s) (HOOC-B-COOH) of formulas (IIA) or (IIB) (30-90); and
 (III) diol(s) or diamine(s) of formula (III) (1-20).

p = 1-20; and

q, r = 1-10

R1- (CH₂-C(R₂) (COOR₃) _z-R₄ (1),
 HO- (CO- (CH₂) _a-NH) _b-CO-R₇-COOH (IIA) HO- (CO-R₇-CO-NH-R₈-NH) _b-CO-R₇-COOH (IIB)
 HX-D-XH (III)

z = 4-50;

R1 = -S-R₅-OH, -C(C₆H₅)₂-R₅-OH or -SCS-N(C₂H₅) -C₂H₄-OH;

R2 = H or methyl;

R3 = optionally halogenated 1-12C alkyl;

R4 = R₅OH, SCS-N(C₂H₅) -C₂H₄OH or CH₂-CHR₂-COOR₅-OH;

R5 = optionally unsaturated 2-20C aliphatic hydrocarbylene, cycloaliphatic hydrocarbylene with up to 36 C atoms, 8-20C aliphatic-aromatic hydrocarbylene, a divalent aliphatic ether residue of formula R₆-O-R₆' or a divalent polyether residue of formula -(C_nH_{2n}O)_m-CpH_{2p}-;

R₆, R₆' = groups with a total of 4-20C atoms;

n, p = 2-4;

m = at least 1;

a = 5-11;

b = 2-40;

R₇ = hydrocarbylene groups as listed for R₅;

R₈ = 2-12C aliphatic hydrocarbylene, 6-20C cycloaliphatic hydrocarbylene, 8-20C aliphatic-aromatic hydrocarbylene, or -R₆-O-R₆'-;

X = NH or O;

D = optionally unsaturated 4-36C (cyclo)aliphatic hydrocarbylene, an optionally unsaturated aliphatic olefin polymer (mol. wt. 500-4000), a divalent polyether residue as in R₅ (mol. wt. 400-2500), a polyester residue of formula HO-R₉-O-(CO- (CH₂) _a-O) _n-H (4A) in which a = 5-11 and n = 5-30 or HO-R₉-O-(CO-R₇-CO-O-R₉-O) _n-H (4B) in which n = 3-20, or an organic polysiloxane residue with a mol. wt. of 500-3000;

R₉ = 2-36C (cyclo)aliphatic hydrocarbylene

INDEPENDENT CLAIMS are also included for:

(a) method for the production of (A) comprising:

(i) production of (co)polyamide blocks with a number-average molecular weight (Mn) of 500-5000 (preferably 750-2500) and an amino end-group content of not more than 50 mmols/kg by polymerisation or polycondensation at 180-300 deg. C and 1-30 bar (optionally with addition of component D if X = NH), followed by degassing to remove water for at least 0.5 hour at pressures down to 50 mbar;

(ii) addition of alpha, omega -functionalized polyalkyl (meth)acrylate-diols (Mn = 600-5000, preferably 900-2500) in the form of solid, solution or melt, together with all or part of the diol component (III) (if X = O), or optional reaction of component (III) (X = O) with the PMMA-diol (I) in a parallel condensation step to give DMMP-polyester-diol;

(iii) further polycondensation at 180-300 deg. C under reduced pressure in presence of 0.05-0.2 wt% catalyst to give (A) and (iv) discharge from the reactor or further processing to molded products;

(b) thermoplastic laminates comprising:

(i) a layer based on (co)polyamide;

(ii) layer(s) of thermoplastic molding material selected from polyalkyl (meth)acrylates (homo- or co-polymers in which up to 50 mol. % of the alkyl (meth)acrylate may be replaced by butyl (meth)acrylate, methacrylic acid, itaconic acid, styrene or maleic anhydride), polycarbonates, fluoropolymers and/or perfluorinated polymers; and

(iii) at least one layer between (i) and (ii) based on a mixture of the polymers in (i) and (ii) with block copolymers (A);

(c) optical leads with a fibre core and a fibre casing containing a plastic light guide with its protective sheath, in which the sheath consists of (co)polyamide with a melting point below 220 deg. C and the fibre casing consists of polymers based on vinylidene fluoride, tetrafluoroethylene, hexafluoropropene, tetrafluoropropyl, pentafluoropropyl, trifluoroethyl and/or heptadecafluorodecyl methacrylate(s), optionally with acrylic acid- or acrylate-modified polymers, or mixtures of these, with block copolymers (A) being used as the adhesive between fibre casing and protective layer.

USE - For the production of fibres, film, molded products and hot-melt adhesives, and as coupling agents or compatibilizers in co-extruded products based on (co)polyamide and polyalkyl (meth)acrylate or polycarbonate (claimed). Applications include multilayer tubing (e.g. fuel pipes), fibre optics and mobile telephone casings.

ADVANTAGE - New polyamide-polyalkyl (meth)acrylate block copolymers which can be obtained by polycondensation, without the disadvantages of prior-art copolymers and methods of production (e.g. poor yields, non-uniform products, poor reproducibility, high residual monomer content, low degree of polymerisation).

Dwg.0/0

TECH DE 10136286 A1 UPTX: 20030204

TECHNOLOGY FOCUS - POLYMERS - Preferred Polymers: Block copolymers containing (wt. %) diol(s) (I) (30-60), diacid(s) (IIa) or (IIb) (40-60) and diol(s) or diamine(s) (III) (1-10).

Preferred Components: The polyamide segments show Mn values of 500-5000, preferably 750-2500, and are based on monomers selected from 6-12C lactams, 6-12C alpha,omega-aminocarboxylic acids, 2-10C aliphatic diamines and 2-44C dicarboxylic acids, and 2-18C (cyclo)aliphatic diamines. (Meth)acrylates (I) are alpha,omega-functionalized polyalkyl (meth)acrylates with Mn = 600-5000, preferably 900-2500. Diols or diamines (III) are selected from butanediol, hexanediol, cyclohexanedimethanol, dodecanediol, dimer-diol, hexamethylenediamine, dodecanediamine, 2,2,4-/2,4,4-trimethylhexamethylenediamine, 4,4'-diamino-dicyclohexylmethane and its 3,3'-dimethyl derivative, polyethylene- or polypropylene-glycol diols, polytetramethylene-diols and the analogous diamines, optionally hydrogenated polybutadiene-diols or poly-(butadiene-co-ethylene)-diols, polycaprolactone-diols, and polyester-diols based on aliphatic or aromatic dicarboxylic acids and 2-36C (cyclo)aliphatic diols or 6-18C aromatic diols.

Preferred Laminates: Laminates in which layer (i) is based on polyamide 12 (or copolymers or alloys thereof) or an amorphous polyamide (or an alloy thereof), preferably based on terephthalic acid and 2,2,4/2,4,4-trimethylhexamethylenediamine, on isophthalic acid, 3,3'-dimethyl-4,4'-diaminodicyclohexylmethane and laurolactam, or on 1,12-dodecanoic acid and 4,4'-diaminodicyclohexyl methane or its 3,3'-dimethyl derivative. The poly(meth)acrylate in layer (ii) is an optionally fluorinated poly-(1-12C alkyl)-(meth)acrylate, preferably polymethyl methacrylate or polybutyl methacrylate. These laminates are in the form of casings or casing parts for mobile telephones, or multilayer tubing or pipelines (optionally corrugated), formed by injection moulding-extrusion, calendering or welding. Multilayer tubing has inner layer(s) of **thermoplastic** fluoropolymer (preferably PVDF or a terpolymer of tetrafluoroethylene, hexafluoropropene and vinylidene fluoride), an outer layer of polyamide (especially polyamide 12 or its derivatives) and an intermediate coupling layer based on (A).

ABEX DE 10136286 A1 UPTX: 20030204

EXAMPLE - An amorphous polyamide oligomer was obtained by reacting 3.05 kg 3,3'-dimethyl-4,4'-diaminodicyclohexylmethane with 3.67 kg dodecanedioic acid at 230-270 degreesC (normal pressure). The precondensate melt was cooled to 230 degreesC, treated with a hot (230 degreesC) mixture of 2.06 g polymethyl-methacrylate-diol (mol. wt. 900), 0.43 kg dimer-diol and 20 g tetra-n-butyl zirconate (in n-butanol) and reacted in a closed reactor at below 10 mbar, to give a block copolymer (A-15) with a relative viscosity (0.5% in m-cresol) of 1.62, a glass transition point of 110 degreesC, a tensile modulus of 1760 MPa, a tensile strength of 48 MPa and an

elongation at break of 6%. Two-part tensile test bars were produced by injection moulding various thermoplastics against mould inserts made of (A-15) at a suitable temperature (to achieve partial melting of A-15 over the contact surface). Tensile strengths of the test pieces obtained ranged from 7 MPa for Grilamid L 20 (RTM: polyamide 12) to 10 MPa for Solef 1008 (RTM: PVDF), 15 MPa for Rialglas 09000 ST (RTM: polymethyl methacrylate) and 30 MPa for Grilamid TR 55 (RTM: amorphous copolyamide).

FS CPI EPI GMPI
 FA AB; GI
 MC CPI: A02-A00A; A05-E07; A10-D02; A10-E01
 EPI: V07-F01A3B; W01-C01A3

L58 ANSWER 2 OF 6 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 2002-443852 [47] WPIX
 DNN N2002-349740 DNC C2002-126258
 TI Laminated digital photo finished image production, by maintaining cover sheet in contact with heat roller at predetermined temperature such that sheet surface replicates surface finish of roller.
 DC A89 G05 G08 P75 P76 P84 S06 V07
 IN ASHKENAZI, I; LANDA, B; LIOR, I; ISHAI, L
 PA (INDI-N) INDIGO NV; (HEWP) HEWLETT-PACKARD INDIGO BV
 CYC 95
 PI WO 2002018151 A1 20020307 (200247)* EN 31p B41M007-00
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
 MW MZ NL OA PT SD SE SL SZ TZ UG ZW
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE
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 PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
 YU ZA ZW
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 EP 1339551 A1 20030903 (200365) EN B41M007-00
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 NL PT RO SE SI
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 NL PT RO SE SI
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 2000-68617 20000903, WO 2000-IL522 20000903; EP 1339551 A1 EP
 2000-956755 20000903, WO 2000-IL522 20000903; EP 1369258 A1 Div ex
 EP 2000-956755 20000903, EP 2003-103371 20000903
 FDT AU 2000068617 A Based on WO 2002018151; EP 1339551 A1 Based on WO
 2002018151; EP 1369258 A1 Div ex EP 1339551
 PRAI WO 2000-IL522 20000903; EP 2003-103371 20000903
 IC ICM B41M007-00
 ICS B32B027-12; B32B031-08; B41M003-14; B42D015-00; B42D015-10;

G03G007-00; G03H001-18

AB WO 200218151 A UPAB: 20020725

NOVELTY - A cover sheet (112) containing image (114) contacts a substrate (116) and is passed between rollers (120, 122). The roller (122) preheats the surface of the cover sheet after which the image is laminated between the cover sheet and substrate. The sheet is kept in contact with the roller at a specific temperature such that sheet surface replicates the surface finish of the roller.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for method of hot laminating a **plastic cover sheet** and paper or glossy paper substrate. The substrate is bent and pressed against the sheet during heating.

USE - For laminated digital photo-finished image production.

ADVANTAGE - Allows for controllable finish on laminated images.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of the apparatus used for producing laminated images.

Cover sheet 112

Image 114

Substrate 116

Rollers 120, 122

Dwg. 2/4

TECH WO 200218151 A1UPTX: 20020725

TECHNOLOGY FOCUS - POLYMERS - The cover sheet is made of a material selected from **plastic**, textured polycarbonate, polyester, PVC, polypropylene, **amine terminated polyamide** and polyethylene. The adhesive layer is made of a material selected from **thermoplastic** ethylene vinyl acetate, **amine terminated polyamide**, polyethylene imine, cross-linked polyacrylic ester, ionomer, copolymer of ethylene and methacrylic acid.

Preferred Method: The cover sheet has thickness of less than 20 microns and is made to contact the substrate through hot melt adhesive layer of thickness more than 5 microns but less than 30 mum. The overall thickness of the laminate between the image surface of the substrate and the outer surface of the laminate is less than 30 mum. The sheet is preheated by the roller (122) through an external heater so as to replicate a surface finish which is glossy or matte finish or that which includes a hologram or security marking. The sheet is contacted by the roller for 0.1-0.2 seconds. The distance between the rollers is less than 20 microns but greater than the substrate thickness. An image which is a digital image or digital photographic image, is printed on the substrate. The image is formed by inkjet technique using a liquid **toner** or powder **toner**. The image is coated with a hot polymer layer comprising **amine terminated polyamide**.

FS CPI EPI GMPI

FA AB; GI

MC CPI: A11-B09A2; A12-L05; G05-F03; G06-G08

EPI: S06-C09; V07-F02C
 PLE UPA 20020725

L58 ANSWER 3 OF 6 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 2002-280553 [32] WPIX
 DNN N2002-219142 DNC C2002-082485
 TI Production of transfer sheet for **printing** of liquid
toner images, involves providing transfer sheet, providing
 image and transferring image to transfer sheet using heat and
 pressure.
 DC A14 A23 A26 A89 G05 G08 P75 P84 S06 T04
 IN ALMOG, Y; BRANDRISS, S; LEVI, A; BRANDIASS, S
 PA (INDI-N) INDIGO NV; (HEWP) HEWLETT-PACKARD INDIGO BV
 CYC 95
 PI WO 2002005036 A1 20020117 (200232)* EN 19p G03G007-00
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
 MW MZ NL OA PT SD SE SL SZ TZ UG ZW
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE
 DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
 KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
 PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
 YU ZA ZW
 AU 2000058424 A 20020121 (200234) G03G007-00
 EP 1299776 A1 20030409 (200325) EN G03G007-00
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK
 NL PT RO SE SI
 EP 1345085 A2 20030917 (200362) # EN G03G007-00
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK
 NL PT RO SE SI
 ADT WO 2002005036 A1 WO 2000-IL407 20000710; AU 2000058424 A AU
 2000-58424 20000710, WO 2000-IL407 20000710; EP 1299776 A1 EP
 2000-944193 20000710, WO 2000-IL407 20000710; EP 1345085 A2 Div ex
 EP 2000-944193 20000710, EP 2002-79863 20000710
 FDT AU 2000058424 A Based on WO 2002005036; EP 1299776 A1 Based on WO
 2002005036; EP 1345085 A2 Div ex EP 1299776
 PRAI WO 2000-IL407 20000710; EP 2002-79863 20000710
 IC ICM G03G007-00
 ICS B41M005-035; G03G015-16
 AB WO 2002005036 A UPAB: 20020521
 NOVELTY - The transfer sheet containing an image for transfer to a
 final surface of heat and pressure, involves providing a transfer
 sheet, providing an image and transferring the image to the transfer
 sheet using heat and pressure.
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included
 for the thermal transfer sheet. The **sheet** comprises a
 plastic material and a **coating** comprising a
underlayer containing polyvinyl pyridine, copolymer of vinyl

pyridine and styrene and polyethylene methacrylic acid copolymer, and an **overlayer**.

USE - For **printing** of liquid **toner** images.

ADVANTAGE - During transfer of the image to the sheet, the **underlayer** has high affinity for the substrate than the **overlayer** to a surface from which the image is transferred. As the adhesivity of the intermediate transfer material for the **toner** and **overcoat** is reduced, the temperature difference is made smaller. The coating has high affinity for the sheet and it remains bonded to the sheet during the **printing** of the image.

Dwg.0/0

TECH WO 200205036 A1UPTX: 20020521

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Method: The method involves providing a transfer sheet and a liquid **toner** image, and transferring the image to the transfer sheet using heat and pressure. The multicolor image is produced using an electrostatic process. The multicolor image is formed by producing a series of color separations and transferring the separations to an intermediate transfer material. The separations from the intermediate transfer material is then transferred to the transfer sheet. An **underlayer** of the substrate has a relatively weak affinity for the substrate, especially under heat and an **overlayer** of the substrate has a strong affinity to the **underlayer**. The **overlayer** comprises 2-10 weight%, preferably 10 weight% of silica. The image is formed on the **overlayer**.

TECHNOLOGY FOCUS - POLYMERS - Preferred Layer: The **overlayer** comprises an **amine terminated polyamide**, polyethylene imine or polyvinyl pyridine of molecular weight 40000-200000. The weight per square meter of the **overlayer** is 10-3000 mg/m², preferably 20-300 or 30-600 mg/m². The **overlayer** comprises a copolymer of vinyl pyridine and styrene having a molecular weight of 60000-100000. The **underlayer** has a molecular weight of 10000-500000. The **underlayer** comprises a polyethylene methacrylic acid copolymer.

Preferred Sheet: The **underlayer** of the **sheet** contains **polyvinyl** pyridine, polyvinyl pyridine co-styrene or polyethylene methacrylic acid copolymer.

FS CPI EPI GMPI

FA AB

MC CPI: A04-C04; A04-D07; A04-F04; A04-G08A; A05-J07; A12-L05;
A12-W07F1; G05-F01; G06-G08

EPI: S06-A20; T04-X

PLE UPA 20020521

L58 ANSWER 4 OF 6 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1999-312497 [26] WPIX
 DNN N1999-233389 DNC C1999-092239
 TI Substrate suitable for **printing** a **toner** image
 having improved adhesion.
 DC A18 A23 A89 E11 G05 G08 P84 S06
 IN ALMOG, Y; BRANDISSL, S
 PA (INDI-N) INDIGO NV
 CYC 83
 PI WO 9919773 A1 19990422 (199926)* EN 19p G03G007-00
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
 MW NL OA PT SD SE SZ UG ZW
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
 GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS
 LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK
 SL TJ TM TR TT UA UG US UZ VN YU ZW
 AU 9895576 A 19990503 (199937)
 EP 1023642 A1 20000802 (200038) EN G03G007-00
 R: DE FR GB IT
 JP 2001520408 W 20011030 (200202) 23p G03G007-00
 ADT WO 9919773 A1 WO 1998-IL491 19981008; AU 9895576 A AU 1998-95576
 19981008; EP 1023642 A1 EP 1998-949215 19981008, WO 1998-IL491
 19981008; JP 2001520408 W WO 1998-IL491 19981008, JP 2000-516262
 19981008
 FDT AU 9895576 A Based on WO 9919773; EP 1023642 A1 Based on WO 9919773;
 JP 2001520408 W Based on WO 9919773
 PRAI WO 1997-IL391 19971127; IL 1997-121951 19971012
 IC ICM G03G007-00
 ICS G03G013-16; G03G013-20; G03G013-22; G03G015-10; G03G015-16;
 G03G015-20
 AB WO 9919773 A UPAB: 20011203
 NOVELTY - The double **coating** comprises an
underlayer having a high affinity for the substrate and an
overlayer having a high affinity for the **toner**
 material, with the two layers having a high affinity for each other.
 DETAILED DESCRIPTION - A substrate on which a **toner**
 image may be printed comprises:
 (1) a **sheet of plastic**;
 (2) an **underlayer coating** on the
plastic sheet, comprising:
 (1) a first polymer material (I) preferably comprising a
 polymer chosen from **amine-terminated**
polyamide,
 (2) a silane coupling agent
 (3) and aminopropyl triethoxysilane;
 (3) and an **overlayer** coating directly on the
underlayer, comprising a second polymer material (II) and

having an outer surface to which a **toner** image can be fused and fixed, with (II) preferably comprising a polymer chosen from ethylene acrylic acid copolymer, polyvinyl pyridine and styrene butadiene copolymer.

INDEPENDENT CLAIMS are also included for the following:

(1) production of the coated substrate by coating a **sheet of plastic** with (I) as an **underlayer**, and directly **coating** the **underlayer** with (II) to form an **overlayer coating** on the **underlayer**;

(2) a substrate comprising a **sheet of plastic** and an outer coating comprising a polymer chosen from (II);

(3) and a **printing** method comprising **printing** a **toner** image on one of the substrates.

USE - For **printing** liquid **toner** images, especially in digital electrostatic **printing**.

ADVANTAGE - The double coating improves transferability and/or adhesion of images to **plastic** substrates and is useful with a wide range of **toner** materials.

TECH WO 9919773 A1 UPTX: 19990707

TECHNOLOGY FOCUS - IMAGING AND COMMUNICATION - Preferred **Printing** Method: The **toner** image is a liquid **toner** image which is transferred to the substrate using heat and pressure, or which is electrostatically transferred. A preferred method comprises:

(1) forming the image on an image forming surface;
(2) transferring the image to an intermediate transfer member;
(3) and transferring the image from this member to the substrate.

Preferred Substrate: The **underlayer** has a weight of 0.1-1, preferably 0.3-0.5 g/m²; and the **overlayer** has a weight of 0.1-10, preferably 0.25-0.35 g/m². The **overlayer** is free of wax and pigments, and both **overlayer** and **underlayer** are free of particulate matter. Preferably the substrate comprises only two coating layers. For the substrate comprising an outer coating on a **plastic sheet**, the coating has a weight of 0.1- 0.4, preferably 0.25-0.35 g/m².

TECHNOLOGY FOCUS - POLYMERS - The **sheet of plastic** is polyethylene terephthalate (PET), BOPP, polyethylene, vinyl or polycarbonate. The ethylene acrylic acid copolymer used in the **overlayer** has an acrylic acid comonomer content of 8-18, preferably 12-16 wt.%.

ABEX WO 9919773 A1 UPTX: 19990707

EXAMPLE - Macromelt 6239 (RTM: amine-terminated polyamide) (50g) was added to stirred 1-Propanal (950g) and the material was heated to 40-50degreesC to obtain a clear 5 wt.% solids underlayer solution. The material was coated on a BOPP substrate and allowed to dry to obtain a 0.1-0.3 g/m² uniform underlayer coating. Isopropanol (200g)

was added to deionized water (465g). When the mixture cooled, it was added to a 32-35 wt.% dispersion of MP 4990 (RTM: ethylene acrylic acid copolymer) (335g). The dispersion was coated onto the underlayer and dried to obtain a 0.3-0.5 g/m² overlayer coating, suitable for printing on web fed material.

KW [1] 5933-0-0-0 CL USE
 FS CPI EPI GMPI
 FA AB; DCN
 MC CPI: A12-L05D; E05-E02D; G05-F; G06-A01; G06-G06; G06-G08B
 EPI: S06-A04A2
 PLE UPA 20011203

L58 ANSWER 5 OF 6 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1991-332538 [45] WPIX
 CR 1989-023653 [03]; 1990-044788 [06]; 1990-224304 [29]; 1992-079473
 [10]; 1992-131590 [16]; 1992-233959 [28]; 1992-258967 [31]
 DNC C1991-143651
 TI Epoxy resin coating compsns. providing good corrosion resistance - and high-gloss finish in single coat, contain corrosion-inhibiting pigment blend of zinc phosphate, zinc molybdate and zinc benzoate.
 DC A21 A82 E12 E31 E32 G01 G02 M14
 IN ENG, A T; GREEN, W J; HEGEDUS, C R; HIRST, D J
 PA (USNA) US SEC OF NAVY
 CYC 1
 PI US 5059640 A 19911022 (199145)*
 US 593416 A0 19920204 (199212) 26p
 ADT US 5059640 A US 1990-593416 19900928; US 593416 A0 US 1990-40292
 19900928
 PRAI US 1990-593416 19900928; US 1988-211026 19880616; US 1989-331200
 19890328; US 1989-442085 19891128; US 1990-40292 19900928
 IC C08L063-00; C09D000-01
 AB US 5059640 A UPAB: 20011211
 Coating compsns. comprise (all pts. wt.) 100 epoxy resin, 0-1000 (pref. 50-500) organic solvent, 0-140 (pref. 40-100) TiO₂ pigment, and 0.01-300 (pref. 20-100) of a mixt. of corrosion-inhibiting pigments consisting of 10-120 (pref. 30-100) Zn phosphate (I), 40-260 (pref. 60-210) Zn molybdate (II), and 1-30 (pref. 3-25) Zn salt (III) of a benzoic acid.

The resin is pref. selected from known commercially available materials; esp. those based on bisphenol A, used in combination with polyamine or **amine-terminated polyamide** curing agents.

USE/ADVANTAGE - The compsns. can be applied to. various substrates, esp. metal and **plastic** surfaces, as a single coat (typically 1-10 mils thick), without the need for an **undercoat**, and cured to give a corrosion-resistant film having high-gloss, good adhesion and a high degree of flexibility.

The compsns. are partic. useful on aircraft where adequate finish is provided by a relatively thin single coat.

ABEQ US 7593416 A UPAB: 19930928

Coating compsns. comprise (all pts.wt.) 100 epoxy resin, 0-1000 (pref. 50-500) organic solvent, 0-140 (40-100) TiO₂ pigment, and 0.01-300 (20-100) of a mixt. of corrosion inhibiting pigments consisting of 10-120 (30-100) Zn phosphate (I), 40-260 (60-120) Zn molybdate (II), and 1-30 (3-25) Zn salt (III) of a benzoic acid.

The resin is pref. selected from known commercially available materials; esp. those based on bisphenol A, used in combination with polyamine or **amine-terminated polyamide** curing agents.

USE/ADVANTAGE - The compsns. can be applied to various substrates, esp. metal and **plastic** surfaces, as a single coat (typically 1010 mils thick), without the need for an **undercoat**, and cured to give a corrosion resistant film having high-gloss, good adhesion and a high degree of flexibility. The compsns. are partic. useful on aircraft where adequate finish is provided by a relatively thin single coat.

FS CPI

FA AB; DCN

MC CPI: A05-A01E4; A08-E02; A12-B01L; E05-L03C; E31-K05B; E35-K02; E35-Q; G02-A02G; G02-A05; G02-A05E; M14-D02; M14-K

DRN 0258-U; 1966-U

PLC UPA 20011211

L58 ANSWER 6 OF 6 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1982-09207J [50] WPIX

TI Aq. developable photopolymerisable compsn. e.g. for **printing plates** - comprising unsatd. monomer, photoinitiator, binder and thermal polymerisation inhibitor.

AW POLYMETHACRYLIC POLYAMIDE PVP POLYVINYL ACETATE.

DC A12 A14 A89 E19 G06 P83 P84

IN PINE, H J

PA (DUPO) DU PONT DE NEMOURS & CO E I

CYC 6

PI US 4361640 A 19821130 (198250)* 8p

EP 76473 A 19830413 (198316) EN

R: BE DE FR GB

JP 58072138 A 19830430 (198323)

EP 76473 B 19851218 (198551) EN

R: BE DE FR GB

DE 3268051 G 19860130 (198606)

JP 01046051 B 19891005 (198944)

ADT JP 58072138 A JP 1982-171071 19821001

PRAI US 1981-308056 19811002

REP GB 1550382; GB 1587476; US 4139437

IC C08F002-50; C08F120-20; C08L033-12; G03C001-68; G03F007-26
 AB US 4361640 A UPAB: 19930915
 Aq. developable photopolymerisable compsn. comprises (a) 22-32 wt.% of an ethylenically unsatd. monomer (I) contg. at least two free radical polymerisable terminal ethylenic gps.; (b) 0.1-5 wt.% of a free radical producing photoinitiator system; (c) 40-80 wt.% of a binder system comprising a reaction prod. of (i) 65-87 pts. wt. of a terpolymer of methyl methacrylate, butyl methacrylate and methacrylic acid, having an acid value of 175-200 and an inherent viscosity of 0.4-0.5; (ii) 5-20 pts. wt. of an **amine-terminated polyamide** resin and (iii) 5-20 pts. wt. of a copolymer of vinyl pyrrolidone and vinyl acetate; (d) 0.03-0.10 wt.% of a thermal polymerisation inhibitor; (e) 0-18 wt.% of a **plasticiser** and (f) 0-2 wt.% of a tert. amine capable of salt formation with a carboxylic acid.
 The compsns. can be extruded into films which are then applied e.g. to metal substrates using a suitable adhesive using calender rolls. Compsns. are esp. useful for the prodn. of **printing plates** having improves sensitivity and high quality.
 FS CPI GMPI
 FA AB
 MC CPI: A02-A09; A02-C; A04-A03; A04-B01; A04-D05; A04-F01; A05-F01E; A07-A04E; A12-L02B; A12-W07C; E06-D07; E10-F02A; E10-G02G; G05-A; G06-A06; G06-D05; G06-F03B; G06-F03D
 PLC UPA 19930924

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L36 ANSWER 1 OF 18 HCA COPYRIGHT 2004 ACS on STN
 139:343490 Chlorine-free **photoimaging** resin compositions, presensitized lithographic plates using them, and their printing plates with sharp **image** patterns. Ichikawa, Shigehiko; Tanaka, Shinji; Ichii, Yoshiki (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2003302756 A2 20031024, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-21552 20030130. PRIORITY: JP 2002-31584 20020208.
 AB The compns. with org. Cl content (AOX) .ltoreq.20 ppm comprise (A) sol. polymers, (B) photopolymerizable monomers contg. .gtoreq.1 epoxy monomers or their esters, and (C) photoinitiators.
 IC ICM G03F007-027

CC ICS G03F007-00
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
ST **photoimaging** epoxy acrylate compn printing plate;
presensitized lithog plate epoxy chlorine free
IT Lithographic plates
(Cl-free **photoimaging** compns. for presensitized lithog.
plates with sharp **image** patterns)
IT Polyamides, preparation
(Cl-free **photoimaging** compns. for presensitized lithog.
plates with sharp **image** patterns)
IT Polyoxyalkylenes, uses
(Cl-free **photoimaging** compns. for presensitized lithog.
plates with sharp **image** patterns)
IT Lithographic plates
(neg.-working presensitized; Cl-free **photoimaging**
compns. for presensitized lithog. plates with sharp **image**
patterns)
IT Polyoxyalkylenes, preparation
(polyamide-; Cl-free **photoimaging** compns. for
presensitized lithog. plates with sharp **image** patterns)
IT Polyamides, preparation
(polyoxyalkylene-; Cl-free **photoimaging** compns. for
presensitized lithog. plates with sharp **image** patterns)
IT Polyoxyalkylenes, preparation
(reaction products with acrylonitrile, reduced, salts with adipic
acid, polyamides; Cl-free **photoimaging** compns. for
presensitized lithog. plates with sharp **image** patterns)
IT 4206-61-5P, Diethylene glycol diglycidyl ether 7195-45-1P,
Diglycidyl phthalate
(Cl-free **photoimaging** compns. for presensitized lithog.
plates with sharp **image** patterns)
IT 105-60-2DP, .epsilon.-Caprolactam, polymers with adipic acid-diamine
salts 107-13-1DP, Acrylonitrile, reaction products with
polyethylene glycol, reduced, salts with adipic acid, polyamides
124-04-9DP, Adipic acid, salts with **amine-terminated**
polyethylene glycol, **polyamides**
3323-53-3DP, Hexamethylenediamine adipate (1:1), polymers with
caprolactam and polyoxyethylenediamine adipates 25322-68-3DP,
Polyethylene glycol, reaction products with acrylonitrile, reduced,
salts with adipic acid, polyamides 55252-47-6P 56565-75-4P,
Adipic acid N-(2-aminoethyl)piperazine salt-caprolactam polymer
107313-87-1P 141557-55-3P 176087-11-9P, Gohsenol KL 05
350502-65-7P
(Cl-free **photoimaging** compns. for presensitized lithog.
plates with sharp **image** patterns)
IT 108-30-5, Succinic anhydride, reactions 111-46-6, Diethylene
glycol, reactions 556-52-5, Glycidol

(Cl-free **photoimaging** compns. for presensitized lithog. plates with sharp **image** patterns)

IT 79-41-4, Methacrylic acid, uses 106-91-2, Blemmer GS 3524-68-3, NK Ester A-TMM 3 25322-68-3, PEG 400 26570-48-9, NK Ester A 200 28497-59-8, Blemmer GMR-R 38056-88-1, HOA-MPE (Cl-free **photoimaging** compns. for presensitized lithog. plates with sharp **image** patterns)

L36 ANSWER 2 OF 18 HCA COPYRIGHT 2004 ACS on STN

138:56868 Curable epoxy resin compositions containing liquid **amino-terminated polyamides** and their preparation. Corley, Larry Steven (Resolution Performance Products LLC, USA). U.S. US 6500912 B1 20021231, 10 pp. (English). CODEN: USXXAM. APPLICATION: US 2000-660369 20000912.

AB The compn. comprises an epoxy resin having .gt;req.1.5 epoxy groups/mol. and a liq. **amino-terminated polyamide** prep'd. by reacting a C18-60 dicarboxylic acid or its derivs. with an diamine. The compns. are cured under conditions effective to produce articles, membranes, secondary containment membranes, films or cured coatings on surfaces of a substrates. Thus, 100 parts Epon Resin 828 (epoxy resin) was mixed with 110 parts **amino-terminated polyamide** obtained from hydrolyzed a reaction product of a dimer acid and N-(2-hydroxyethyl)ethylenediamine, and cured, showing strength 10.+-4 MPa, modulus 289.+-115 MPa and elongation 20.+-3%.

IC ICM C08G059-44

NCL 528113000; 525531000; 525533000; 528119000; 528124000; 528341000; 528347000; 528405000; 528417000

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 42

ST epoxy resin **amino terminated polyamide** crosslinker; dimer acid polyamide crosslinker epoxy resin; hydroxyethylmethylenediamine polyamide crosslinker epoxy resin

IT Polyamides, preparation
(amino-contg., crosslinking agents; curable epoxy resin compns. contg. liq. **amino-terminated polyamides**)

IT Coating materials
Crosslinking agents
Membranes, nonbiological
Plastic films
(curable epoxy resin compns. contg. liq. **amino-terminated polyamides**)

IT Epoxy resins, uses
(curable epoxy resin compns. contg. liq. **amino-terminated polyamides**)

IT Fatty acids, preparation
(dimer acids, reaction products with amines and hydrolyzed,

crosslinking agents; curable epoxy resin compns. contg. liq.
amino-terminated polyamides)

IT 111-41-1DP, N-(2-Hydroxyethyl)ethylenediamine, reaction products
 with dimer acids and hydrolyzed
 (crosslinking agents; curable epoxy resin compns. contg. liq.
amino-terminated polyamides)

IT 25068-38-6
 (curable epoxy resin compns. contg. liq. **amino-**
terminated polyamides)

L36 ANSWER 3 OF 18 HCA COPYRIGHT 2004 ACS on STN

136:207753 **Laminated image printing.**

Landa, Benzion; Lior, Ishaiau; Ashkenazi, Itzhak (Indigo N.V.,
 Neth.). PCT Int. Appl. WO 2002018151 A1 20020307, 31 pp.
 DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR,
 BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
 LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
 VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF,
 BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT,
 LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN:
 PIXXD2. APPLICATION: WO 2000-IL522 20000903.

AB The present invention relates to a method of detg. an adjusted color
 to be used for computing colorants for **printing** on a
 specified substrate, comprising: specifying an apparent color; estg.
 diffuse reflection from an outside surface of colorants when printed
 on the specified substrate; and adjusting the specified color for
 the effects of the estd. diffuse reflection to det. a color to be
 used for computing the colorants.

IC ICM B41M007-00
 ICS G03G007-00; B41M003-14; G03H001-18; B42D015-10; B42D015-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)

ST Section cross-reference(s): 38

ST **flexog printing roller laminated image
 coating**

IT Polyesters, uses
 (Laminated image printing cover
 sheet contg.)

IT **Ink-jet printing**
 (adhesive and cover sheet **coating** for **laminated**
image printing in relation to)

IT **Printing rolls**
 (adhesive **layer** and cover sheet **coating** for
laminated image printing)

IT **Polyamides, uses**
 (amine terminated; Laminated

IT **image printing adhesive layer** contg.)
 Extrusion of **plastics** and rubbers
 (**lamination**; adhesive and cover sheet **coating**
 for **laminated image printing**)
 IT Polycarbonates, uses
 (**textured**; **Laminated image printing**
 cover sheet contg.)
 IT **Plastics**, uses
 (**thermoplastics**; **Laminated image**
 printing adhesive **layer** contg.)
 IT 108-05-4, Vinyl acetate, uses 9002-98-6 25053-53-6,
 Ethylene-methacrylic acid copolymer
 (**Laminated image printing** adhesive
 layer contg.)
 IT 9002-88-4, Polyethylene
 (**Laminated image printing**
 coating material contg.)
 IT 9002-86-2, PVC 9003-07-0, Polypropylene
 (**Laminated image printing** cover
 sheet contg.)

L36 ANSWER 4 OF 18 HCA COPYRIGHT 2004 ACS on STN

136:110147 Method for producing transfer sheets. Almog, Yaacov;
 Brandriss, Sergio; Levi, Amnon (Indigo N.V., Neth.). PCT Int. Appl.
 WO 2002005036 A1 20020117, 19 pp. DESIGNATED STATES: W: AE, AG,
 AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
 DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN,
 IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
 MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
 TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG,
 KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE,
 DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE,
 SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-IL407
 20000710.

AB A method for producing a thermal transfer printing sheet includes:
 printing an **image**, particularly a liq. **toner**
image to an photoreceptor; transferring the **image**
 to an intermediated transfer member; and using heat and pressure to
 transfer the **image** to a transfer sheet which has a
 substrate, an **underlayer** and an **overlayer**.

IC ICM G03G007-00
 ICS G03G015-16; B41M005-035

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38

IT **Polyamides**, uses
 (**amine-terminated**; **overcoat** of
 thermal transfer sheet contg.)

IT 9010-77-9, Michelman 4990
 (Michelman 4990; **undercoat** of thermal transfer sheet
 contg.)

IT 7631-86-9, Silica, uses 9002-98-6 26913-06-4,
 Poly[imino(1,2-ethanediyl)] 99820-90-3, Macromelt 6239
 (**overcoat** of thermal transfer sheet contg.)

IT 25053-53-6, Nucrel 699
 (**toner** for producing **image** on thermal
 transfer sheet contg.)

IT 60842-32-2, R 972
 (**undercoat** and **overcoat** of thermal transfer
 sheet contg.)

IT 9003-47-8, Polyvinyl pyridine 9019-70-9, Vinyl pyridine-styrene
 copolymer
 (**underlayer** of thermal transfer sheet contg.)

L36 ANSWER 5 OF 18 HCA COPYRIGHT 2004 ACS on STN

133:59561 Epoxy resin system containing aminoalkylpiperazine-based
 curing agents. Stewart, Steven Lee; Weinmann, Daniel James; Corley,
 Larry Steven; Ehrlich, Martin Lee (Shell Internationale Research
 Maatschappij BV, Neth.). PCT Int. Appl. WO 2000035986 A1 20000622,
 78 pp. DESIGNATED STATES: W: JP; RW: AT, BE, CH, CY, DE, DK, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN:
 PIXXD2. APPLICATION: WO 1999-EP7757 19991004. PRIORITY: US
 1998-212083 19981215.

AB An epoxy resin compn. contg. (a) an epoxy resin and (b) a liq.
amine terminated polyamide curing agent
 prepd. by condensing an aminoalkylpiperazine and a dicarboxylic
 acid. The epoxy resin compn. typically requires less than 35% of
 solvent to produce a sprayable viscosity. The cured epoxy compn.
 has good flexibility. A hydroxy-functional flexibilized resin is
 also produced by reacting (a) an epoxy resin, (b) a liq.
 aminoalkylpiperazine-based **amine terminated**
polyamide and (c) a hydroxy-functional amine. In particular
 the invention relates to **thermoset** epoxy waterproofing
 membranes comprising: (a) one or more epoxy resin(s) having an av.
 of at least 1.5 epoxy groups per mol.; (b) a liq. amine terminated
 polyamine prepd. by reacting at least one C18-50 dicarboxylic acid
 and an aminoalkylpiperazine in a ratio of moles of
 aminoalkylpiperazine to equiv. of carboxyl group in the acid of
 greater than 0.75:1; (c) one or more optional polyamine(s); (d) one
 or more optional filler(s); and (e) one or more optional modifying
 resin(s) wherein the tensile modulus of the **thermoset**
 epoxy waterproofing membranes is less than 200,000 psi and the
 tensile elongation of the **thermoset** epoxy waterproofing
 membranes is greater than 20%. The membranes are useful for
 preventing water penetration for roofs, bridges, parking decks,
 water-retention ponds, swimming pool liners, basement water

IC barriers, land fills, secondary containment, geomembranes and ponds.
 ICM C08G059-54
 ICS C08G069-34
 CC 37-6 (Plastics Manufacture and Processing)
 IT **Coating materials**
 Crosslinking agents
 Impregnating materials
 Membranes, nonbiological
 Waterproofing agents
 (epoxy resin system contg. aminoalkylpiperazine-based curing agents)

L36 ANSWER 6 OF 18 HCA COPYRIGHT 2004 ACS on STN

130:274062 **Coatings** for substrate for **printing**
toner image thereon. Almog, Yaakov; Brandiss,
 Sergio (Indigo N.V., Neth.). PCT Int. Appl. WO 9919773 A1 19990422,
 20 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR,
 BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR,
 HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
 MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
 SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ,
 MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK,
 ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN,
 TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-IL491
 19981008. PRIORITY: IL 1997-121951 19971012; WO 1997-IL391
 19971127.

AB A substrate suitable for **printing** a **toner**
image thereon comprises a **plastic sheet**,
 an **underlayer coating**, on the **plastic**
sheet, comprising a substance chosen from **amine-**
terminated polyamides, silane coupling agents, and
 aminopropyltriethoxysilane, and an **overlayer**
coating, directly on the **underlayer**
coating, comprising a polymer material and having an outer
 surface to which a **toner image** can be fused and
 fixed, the polymer material preferably consisting essentially of a
 polymer chosen from the group consisting of ethylene-acrylic acid
 copolymer, poly(vinylpyridine), and styrene-butadiene copolymer.

IC ICM G03G007-00
 ICS G03G013-16; G03G013-20; G03G013-22
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 ST polymer **coated film** electrostatog **toner**
 receptor; polyamide **coated film** electrostatog
toner receptor
 IT **Polyamides**, uses
 (amine-terminated; electrostatog.
 toner receptors from **plastic sheets**

coated with polymer compns. contg.)

IT Electrographic **toners**

Electrophotographic **toners**
(polymer-coated plastic sheets as receptors of)

IT **Plastic films**
(with polymer **coatings** as receptors of electrostatog. **toners**)

IT 919-30-2, 3-Aminopropyltriethoxysilane 9003-47-8,
Poly(vinylpyridine) 9003-55-8, Butadiene-styrene copolymer
9010-77-9, Ethylene-acrylic acid copolymer 99820-90-3, Macromelt
6239
(electrostatog. **toner** receptors from **plastic sheets coated** with polymer compns. contg.)

L36 ANSWER 7 OF 18 HCA COPYRIGHT 2004 ACS on STN

129:246028 Melt reactivity of carboxylic acid functional polysulfone in polyamide/polysulfone blends: phase morphology and mechanical properties aspects. Marechal, Ph.; Chiba, T.; Inoue, T.; Weber, M.; Koch, E. (Department of Organic and Polymeric Materials, Tokyo Institute of Technology, Tokyo, 152, Japan). Polymer, 39(23), 5655-5662 (English) 1998. CODEN: POLMAG. ISSN: 0032-3861.

Publisher: Elsevier Science Ltd..

AB Aliph. polyamide (PA 6 or PA 66), polysulfone (PSU) and polysulfone copolymd. with 4,4'-bis(4-hydroxyphenyl)pentanoic acid bearing carboxylic acid functions (PSU copolymers) were melt blended in the MINI-MAX molder. Morphol. of the blends was characterized by image anal. on SEM pictures and light scattering. The particle size depends on the viscosity ratio and on the concn. of COOH functional units in the PSU. The carboxylic acid function indeed reacts with **amino end groups** of the **polyamide**, leading to the formation of a grafted copolymer concd. at the interface. In this way, interfacial tension is reduced and interfacial adhesion enhanced. The mech. properties of PA/PSU blends are also improved by the formation of this grafted copolymer. However, considering mech. properties, particle size appears as the dominant parameter. Mechanism of deformation and fracture of these blends are also discussed.

CC 37-5 (Plastics Manufacture and Processing)

L36 ANSWER 8 OF 18 HCA COPYRIGHT 2004 ACS on STN

129:96669 Vinyl chloride polymer plastisol **coating** compositions. Nakao, Shinichi; Gonda, Kyoshi; Fuji, Masayuki; Matsuda, Kimio (Aisin Kako Co., Ltd., Japan; Kanto Auto Works, Ltd.). Jpn. Kokai Tokkyo Koho JP 10152592 A2 19980609 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-314801 19961126.

AB Title compns., which give **films** inhibiting blister and crack initiation due to evapn. of absorbed H₂O on baking, useful for

overcoatings on cationic electrodeposition-**coated** automobile bodies, contain OH-contg. crosslinkable vinyl chloride (I) polymer (.gtoreq.25%)-contg. resins, **plasticizers**, fillers, and 1.0-4.0% adhesion-imparting agents contg. active amino group-contg. polyamides and blocked isocyanates. Thus, P 100 (OH-contg. crosslinkable I polymer) 14, 103 ZX (3:97 vinyl acetate-I copolymer) 14, DOP 22, an equiv. mixt. of heavy CaCO₃ and colloidal CaCO₃ 40, a mixt. of a mineral spirit and PbSO₄.3PbO.H₂O 5, KC 516 (dimer acid-derived polyamide) 1.0, and Adester 751 (blocked isocyanate; NCO 1.3%) 3.0 parts were uniformly mixed, applied to a cationic electrodeposition-**coated** steel plate, and precured at 110.degree. for 7 min. A polyester-melamine intermediate **coating** material was applied to the precured compn., moistened at 30.degree. and 90% relative humidity for 48 h, and baked at 180.degree. for 5 min to show neither blister nor crack on the surface of the intermediate **coating film**.

IC ICM C08L027-06
 ICS C09D127-06

CC 42-10 (Coatings, Inks, and Related Products)

ST vinyl chloride polymer plastisol **coating**; blister crack resistance plastisol **coating**; electrodeposition automobile body **overcoating** plastisol; hydroxy contg polymer plastisol polyisocyanate; **amine terminated polyamide** plastisol **coating**

IT **Coating materials**
 (blister-resistant; hydroxy-contg. vinyl polymer plastisol compns. contg. blocked polyisocyanates and polyamides for **coatings** with blister and crack resistance)

IT Fillers
Plasticizers
 (hydroxy-contg. vinyl polymer plastisol compns. contg. blocked polyisocyanates and polyamides for **coatings** with blister and crack resistance)

IT 471-34-1, Calcium carbonate, uses
 (fillers; hydroxy-contg. vinyl polymer plastisol compns. contg. blocked polyisocyanates and polyamides for **coatings** with blister and crack resistance)

IT 209744-09-2P
 (hydroxy-contg. vinyl polymer plastisol compns. contg. blocked polyisocyanates and polyamides for **coatings** with blister and crack resistance)

IT 117-81-7, DOP
 (**plasticizers**; hydroxy-contg. vinyl polymer plastisol compns. contg. blocked polyisocyanates and polyamides for **coatings** with blister and crack resistance)

semi-interpenetrating polymer network of rigid polyamide and flexible polyimide. Chang, Ken-Yuan; Chang, Hurng-Ming; Lee, Yu-Der (Department Chemical Engineering, National Tsing Hua University, Taiwan, 30043, Taiwan). Journal of Polymer Science, Part A: Polymer Chemistry, 32(14), 2629-39 (English) 1994. CODEN: JPACEC. ISSN: 0887-624X.

AB 2,2'-Dimethyl-4,4'-diaminobiphenyl was used to prep. a lyotropic **amine-terminated polyamide** (PBTA) prepolymer. Alternately, 2,3,5,6-tetramethylphenylenediamine is polycondensed with 3,3',4,4'-benzophenonetetracarboxylic acid dianhydride to form an amine-terminated poly(amic acid)-polyketone. The 2 prepolymers are polycondensed with terephthaloyl chloride to form a block copolymer. The resultant block copolymers were characterized by IR, NMR, .eta.inh, and GPC to confirm that the copolymer. reaction was precisely accomplished, as well as to det. the product compns. and mol. wts. Thermal anal. and lyotropic behavior were also studied for these copolymers. Rigid-rod amide oligomer was crosslinked in the presence of another flexible polyimide. Five sets of semi-IPN **films** were prep'd. **under** varying compns. The curing conditions were investigated by DSC; in addn., the cured semi-IPNs exhibited a single phase (1 Tg) according to examn. by an instrument for thermally stimulated current (TSC). No large-scale phase sepn. was obsd. in SEM **images** of the fractured surfaces.

CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 75

IT Polymerization
(of **amine-terminated polyamides** or
amine-terminated polyimide-polyketones with
terephthaloyl chloride)

L36 ANSWER 10 OF 18 HCA COPYRIGHT 2004 ACS on STN
119:98310 Water-soluble cellulose acetoacetates, their preparation and uses. Edgar, Kevin Joseph; Blount, William Williamson, Jr. (Eastman Kodak Co., USA). PCT Int. Appl. WO 9303063 A1 19930218, 40 pp.
DESIGNATED STATES: W: CA, JP, KR; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE. (English). CODEN: PIXXD2.
APPLICATION: WO 1992-US6304 19920730. PRIORITY: US 1991-742821 19910809.

AB Cellulose acetoacetates, useful for coatings, are prep'd. by reacting a cellulosic material with a diketene, an alkyl acetoacetate, 2,2,6-trimethyl-4H-1,3-dioxin-4-one, or their mixt. in a solvent system comprising LiCl and a carboxamide, and optionally, a catalyst at 80-160.degree. for 0.1-10 h. Hardwood pulp (Natchez HVX) was treated with tert-Bu acetoacetate in a solvent comprising AcNMe₂ and LiCl at 110.degree. to give a water-sol. cellulose acetoacetate with degree of substitution 0.85 in 97.9% yield.

IC ICM C08B003-00

ICS C08B003-14; C09D101-10
 CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
 Section cross-reference(s): 42
 IT Paper
 Glass, oxide
Plastics, film
 (coatings for, cellulose acetoacetate compns. as)
 IT **Coating materials**
 (manuf. of, water-sol. cellulose acetoacetate in)
 IT **Polyamides, uses**
 Polyoxyalkylenes, uses
 (amino-terminated, crosslinkers, for
 cellulose acetoacetate-based coatings)

L36 ANSWER 11 OF 18 HCA COPYRIGHT 2004 ACS on STN

118:61680 Electrically conductive **thermosetting**
 polyamide-polyimide coating compositions. Kiyohara, Tadashi;
 Hashimoto, Takeshi (Tomoegawa Paper Co., Ltd., Japan). Jpn. Kokai
 Tokkyo Koho JP 04168156 A2 19920616 Heisei, 8 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 1990-293544 19901101.
 AB The title compns., esp. useful for electronic parts, comprise 60-99%
 arom. carbonyl dianhydride- and hydroxy-contg. and **amino-**
terminated arom. diamine-based **polyamide-imides**,
 1-40% epoxy resins, and dispersed elec. conductive materials. Thus,
 a coating prep'd. from a mixt. of N,N'-bis(3-aminophenyl)-5-
 hydroxyisophthalamide-pyromellitic anhydride copolymer 1, Epikote
 828 0.4, powd. Cu 8, and dimethylacetamide 7 g had elec cond.
 .apprx.10-3.OMEGA./cm and heat resistance (at 200.degree.) 24 h.

IC ICM C08L079-08
 ICS C08G059-40; H01B001-20
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 37, 76
 IT **Coating materials**
 (elec. conductive, heat-resistant, blends of polyamide-polyimides
 and epoxy resins contg. elec. conductive materials for)

L36 ANSWER 12 OF 18 HCA COPYRIGHT 2004 ACS on STN

107:219241 Low-temperature-curable water-based coating compositions.
 Nishida, Reijiro; Tominaga, Akira (Kansai Paint Co., Ltd., Japan).
 Jpn. Kokai Tokkyo Koho JP 62129362 A2 19870611 Showa, 9 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-267498 19851129.

AB Electrodeposited coatings with baking temps. low enough for use on
plastics, rubbers, or polymer/metal assemblies, with good
 corrosion, chem., and water resistance, comprise polymers contg. OH
 and cationic groups and reaction products of polyepoxides with
 polyurethanes prep'd. from polyisocyanates and polyphenolic compds.
 and contg. free phenolic OH groups but no free isocyanate groups.
 Thus, 124 parts Et₂NH was added to a mixt. of 1900 parts Epikote

1004 (bisphenol A epoxy resin) and 1012 parts Butyl Cellosolve, and heated at 120.degree. for 2 h to form an epoxy resin-amine adduct which was mixed with the ketimine of Versamid 460 (**amino-terminated** dimer acid-based **polyamide**) with MIBK at 100.degree. for 1 h to give a 68%-solids epoxy-amine-polyamide adduct compn. Neutralizing 100 parts this compn. with 15 parts ACOH, and mixing it with 38.6 parts reaction product of 4,4'-dicyclohexylmethane diisocyanate-bisphenol A copolymer and E-1000 (epoxidized polybutadiene) and 339 parts H2O gave a 20%-solids electrodeposition bath (pH 6.3). Depositing this compn. at 27.degree. and 200 V onto a Zn phosphate-treated sheet for 3 min and baking at 120.degree. for 30 min gave a 22-.mu. coating which showed pencil hardness 2H, good impact, chem., and salt-spray corrosion resistance, no damage when the sheet was bent, and good throwing power.

IC ICM C09D003-72

ICS C09D003-58; C09D005-44

CC 42-9 (Coatings, Inks, and Related Products)

IT **Coating materials**

(cationic, electrodeposited, solvent-resistant, water-thinned, contg. arom. polyurethane-epoxy resin adducts as crosslinking agents, anticorrosive, low-temp.-curable)

IT 108-10-1D, Methyl isobutylketone, ketimines with **amino-terminated polyamides**, reaction products with

epoxy resin-amine adducts 109-89-7D, Diethylamine, reaction products with epoxy resins and polyamides 25068-38-6D, Epikote 1004, adducts with amines and polyamide ketimines, acetate 111483-95-5D, ketimines with MIBK, reaction products with epoxy resin-amine adducts

(electrodeposition coating, contg. arom. polyurethane-epoxy resin adducts as crosslinking agents, curable at low baking temps.)

L36 ANSWER 13 OF 18 HCA COPYRIGHT 2004 ACS on STN

101:193805 Two-component epoxy resin compositions curable in water. (Nitto Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59084915 A2 19840516 Showa, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-195139 19821105.

AB The title compns. useful as **coatings**, sealants, and adhesives comprise a resin component of mainly a non-alicyclic epoxy resin of >1.7 epoxy groups and epoxy equiv. 70-1000 and a hardener component of 15-90% polyamide polyamine contg. >1.7 primary and/or secondary amino groups and 85-10% liq. acrylonitrile-butadiene copolymer contg. 1.7-3 primary and/or secondary amino groups, wherein the active H (in the amino groups)/epoxy equiv. ratio is 0.2-2.0 and the resin and/or hardener components contain 5-50% cement. Thus, a resin component comprises Epikote 828 41.2, Epikote 1001 13.7, talc 39.1, Portland cement 5.0, and KBM 403 1.0 parts, and a hardener component Sanmide 315 (amine value 310, active H equiv. 125) 40.8,

Hycar ATBN (active H equiv. 1.700) 4.6, talc 49.6, and Portland cement 5.0 parts. The resin and hardener components were mixed, **coated** on a steel plate in water and allowed to stand in water at 20.degree. for 72 h to give a 250 .mu. cured **coating** with adhesive strength 67 kg/cm2.

IC C08G059-50; C08K003-00; C08L063-00
 ICA C09D003-58; C09J003-16; C09K003-10
 CC 42-9 (Coatings, Inks, and Related Products)
 ST **epoxy coating underwater** application; adhesive
 epoxy underwater application; sealant epoxy underwater application;
 polyamide polyamine crosslinker epoxy resin; amine terminated
 nitrile rubber crosslinker; cement epoxy resin underwater
 application
 IT Sealing compositions
 (epoxy resins contg. cement and **polyamide** polyamine and
amine-terminated nitrile rubber,
 underwater-curable)
 IT Crosslinking agents
 Crosslinking agents
 (**polyamide** polyamine and **amine-**
terminated nitrile rubber, epoxy resins contg. cement
 and, underwater-curable)
 IT Epoxy resins, uses and miscellaneous
 (sealants, adhesive, underwater-curable, contg. cement and
polyamide polyamines and **amine-**
terminated nitrile rubber)
 IT Cement
 (portland, epoxy resins contg. **polyamide** polyamine and
amine-terminated nitrile rubber and,
 underwater-curable)
 IT **Coating** materials
Coating materials
 (two-component, underwater-curable, epoxy resins, contg. cement,
polyamide-polyamine and **amine-**
terminated nitrile rubber)
 IT Adhesives
 Adhesives
 (two-component, underwater-curable, epoxy resins, contg. cement,
polyamide-polyamines and **amine-**
terminated nitrile rubber)
 IT 25068-38-6
 (**coatings**, adhesives, sealants, contg. cement and
polyamide polyamine and **amine-**
terminated nitrile rubber, underwater-curable)

Co. , USA). U.S. US 4361640 A 19821130, 8 pp. (English). CODEN: USXXAM. APPLICATION: US 1981-308056 19811002.

AB Aq. soln.-developable photopolymerizable compns. for the prodn. of relief **printing plates** are composed of a monomer having .gtoreq.2 terminal ethylenic groups 22-32, a photoinitiator or initiation system 0.1-5.0, a binder system from the reaction product of a Bu methacrylate-methacrylic acid-Me methacrylate copolymer (65-87), a polyamide resin (5-20), and a vinyl acetate-vinylpyrrolidone copolymer (5-20) 40-80, a thermal polymn. inhibitor 0.03-0.10, and optionally a **plasticizer** .ltoreq.18 and a tertiary amine capable of salt formation with a carboxylic acid .ltoreq.2.0%. Thus, a photopolymerizable compn. was prep'd. by addn. of a liq. compn. contg. tetraethylene glycol diacrylate 27.00, Ph₃PO₄ 9.0, 2,2-dimethoxyacetophenone 1.20, and 1,4,4-trimethyl-2,3-diazabicyclo[3.2.2]non-2-ene-N,N'-dioxide 0.06% to a solid compn. contg. a Bu methacrylate-methacrylic acid-Me methacrylate copolymer 45.74, an **amine-terminated polyamide** 10.00, and a vinyl acetate-vinylpyrrolidone copolymer 7.00%. Relief **printing plates** prep'd. with this compn. were developed with aq. NaOH and were of good quality.

IC G03C001-68

NCL 430275000

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **printing plate** relief photopolymerizable compn; water developable relief **printing plate**

IT Acrylic polymers, uses and miscellaneous

Amines, uses and miscellaneous

Polyamides, uses and miscellaneous

(photopolymerizable compns. contg., aq. soln.-developable, for relief **printing plates**)

IT **Printing plates**

(relief, aq. soln.-developable photopolymerizable compns. for)

IT 91-65-6 115-86-6 17831-71-9 24650-42-8 25086-89-9

28262-63-7 34122-40-2

(photopolymerizable compns. contg., aq. soln.-developable, for relief **printing plates**)

L36 ANSWER 15 OF 18 HCA COPYRIGHT 2004 ACS on STN

81:6822 Measurement of heat of adsorption of acids on polyamide by means of flow method. Kimura, Mitsuo; Taniguchi, Tetsuo; Shimizu, Toru (Fukui Univ., Fukui, Japan). Fukui Daigaku Kogakubu Kenkyu Hokoku, 21(1), 173-9 (Japanese) 1973. CODEN: FDKHAD. ISSN: 0429-8373.

AB Heats of adsorption of HCl, HBr, and HI on four kinds of polyamide powders contg. different amts. of amino end groups were measured by applying an automatic **recording** liquid chromatography app. of thermal detection type as a flow type microcalorimeter. The heat

of adsorption (−.DELTA.H) was obtained from total peak area and adsorption amt. Values of heat of adsorption at satd. adsorption for 4 polyamidesamples, obtained by extrapolating the plots of −.DELTA.H versus .THETA.(equil. amt. of adsorption/satd. amt. of adsorption) to .THETA. = 1, showed good agreement with each other. The values of −.DELTA.H at satd. adsorption for HCl, HBr and HI at 30, 40 and 50.degree. were obtained. It was suggested that the differences in these valuesare brought about by differences in the heat of adsorption of anion to **amino end groups in polyamide.**

CC 69-1 (Thermodynamics, Thermochemistry, and Thermal Properties)

L36 ANSWER 16 OF 18 HCA COPYRIGHT 2004 ACS on STN

77:127336 Measurement of adsorption by a flow method. 3. Measurement of heat of adsorption of inorganic acids on nylon by a flow method. Kimura, Mitsuo; Takahashi, Tetsuo; Taniguchi, Tetsuo; Shimizu, Toru (Fac. Eng., Fukui Univ., Fukui, Japan). *Sen'i Gakkaishi*, 28(7), 265-71 (Japanese) 1972. CODEN: SENGA5. ISSN: 0037-9875.

AB The heat of adsorption of mineral acids, such as hydrogen chloride [7647-01-0], hydrogen bromide [10035-10-6], and hydrogen iodide [10034-85-2], on polyamide powders having various amts. of amino end groups was measured with a thermal detection-type automatic **recording liq. chromatograph**. Obsd. values were corrected by the ratio of adsorption amts. on equil. and contact time in the flow method. Corrected values (−.DELTA.Hc0) were plotted against .THETA. (−[H]f/[S]f) and those at satd. adsorption (−.DELTA.Hc..THETA.=I0) were obtained by extrapolation to .THETA. = 1. Values of −.DELTA.Hc..THETA.=I0 for HCl, HBr, and HI increased with increasing temp. (30-50.deg.), and were 8.2 and 8.9 for HCl at 30 and 40.deg., resp., 11.3 for HBr at 40.deg., and 13.5 kcal/mole for HI at 40.deg.. The differences between the acids depended on the differences of the heat of adsorption of anions, Cl-, Br-, and I-, to protonated **amino end group, -NH3+**, on the **polyamide**.

CC 36-5 (Plastics Manufacture and Processing)

L36 ANSWER 17 OF 18 HCA COPYRIGHT 2004 ACS on STN

68:22741 **Film** density of paint is vital factor. Potts, Bruce; Fraser, Jackson *Canadian Paint and Finishing*, 41(9), 29-30 (English) 1967. CODEN: CAPFBD. ISSN: 0008-4662.

AB Paints for the interior of railway hopper cars were tested in service. A system comprising epoxy-polyamide primer, epoxy-polyamide (pigmented) intermediate **coats**, and clear polyurethane **topcoats** withstood 3 years' service. The polyurethane **film** was superior to others in resistance to chemicals and abrasion and in slip properties (for release of hopper contents). The **undercoating** paints prep'd. by reaction of a linear epoxy polymer with an **amine-terminated**

polyamide resin had superior adhesion and chem. resistance. A min. total dry **film** thickness of 6 mils was required for good alkali resistance.

CC 42 (Coatings, Inks, and Related Products)
 ST RAILWAY HOPPER CAR PAINT; POLYURETHANE **TOPCOATS**; PAINT
 RAILWAY HOPPER CAR; EPOXY POLYAMIDE PAINTS; POLYAMIDE EPOXY PAINTS
 IT Railways
 (hopper cars, linings on, of epoxy-polyamide primer and urethane polymer **topcoat**)
 IT Polyamides, uses and miscellaneous
 (priming linings of epoxy resin and, on railway hopper cars, and urethane polymer **topcoats** thereon)

L36 ANSWER 18 OF 18 HCA COPYRIGHT 2004 ACS on STN
 57:50176 Original Reference No. 57:10060g-h Potentiometric determination of **amino** and carboxyl **end groups** in **polyamide** fibers with a **recording** automatic titrator. Wolf, S.; Mobus, B. (Deut. Metrohm, Echterdingen, Germany). Zeitschrift fuer Analytische Chemie, 186, 194-201 (Unavailable) 1962. CODEN: ZANCA8. ISSN: 0372-7920.

AB To det. the COOH, the polyamide fiber is dissolved in propargyl alc. and titrated with Et4NOH in EtOH. To det. NH2, the fiber is dissolved in 2: 1 m-cresol-iso-PrOH and titrated with HClO4 in EtOH. The electrodes used were W-Ag/AgCl in EtOH satd. with LiCl.
 CC 48 (Textiles)

=> d 137 1-5 cbib abs hitind

L37 ANSWER 1 OF 5 HCA COPYRIGHT 2004 ACS on STN
 139:108723 Printers using **printing** type sheets. Hirabayashi, Mitsuo (Seiko Epson Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2003200558 A2 20030715, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-2326 20020109.

AB The printers, where **printing** is done by depositing inks on **printing** type parts, are obtained by bonding **amino**-terminated **polyamide** compn. **printing** type parts and ionic group- or acid anhydride group-contg. vulcanizer-mixed rubber sheet parts. The **printing** type sheets show good abrasion and ink-swelling resistance.

IC ICM B41J001-54
 ICS B41K001-16; B41N001-12
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 39
 ST printer rubber **printing** sheet abrasion resistance; polyamide **printing** sheet printer abrasion resistance

IT **Polyamides**, uses
(amino-terminated; printers having rubber
printing type sheets with good abrasion resistance)

IT **Polyesters**, uses
(blends with epoxy-modified polyolefins; printers having rubber
printing type sheets with good abrasion resistance)

IT **Polyolefins**
(epoxy-contg., blends with polyamides or polyesters; printers
having rubber **printing** type sheets with good abrasion
resistance)

IT Abrasion-resistant materials
Printing apparatus
(printers having rubber **printing** type sheets with good
abrasion resistance)

IT Polymer blends
Silicone rubber, uses
(printers having rubber **printing** type sheets with good
abrasion resistance)

L37 ANSWER 2 OF 5 HCA COPYRIGHT 2004 ACS on STN

137:330983 Patterned thin films of polyamidoamine dendrimers formed
using microcontact **printing**. Arrington, D.; Curry, M.;
Street, S. C. (Department of Chemistry The Center for Materials for
Information Technology, University of Alabama, Tuscaloosa, AL,
35487-0209, USA). Langmuir, 18(21), 7788-7791 (English) 2002.
CODEN: LANGD5. ISSN: 0743-7463. Publisher: American Chemical
Society.

AB Microcontact **printing** (.mu.CP) is a soft lithog. technique
used to transfer patterned thin org. films to surfaces with
submicrometer resoln. Here, various concns. of fourth-generation

NH₂-terminated polyamidoamine dendrimers are used as the "ink" in
.mu.CP. A patterned monolayer is formed from dil. soln. (1
.mu.mol); however, this structure is not stable under ambient
conditions. Increasing the dendrimer concn. (up to 1 mmol) results
in stable multilayer structures up to roughly 60 nm in height, as
characterized by at. force microscopy. The relationship between
dendrimer concn. and layer thickness is explored. PAMAM.

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

ST microcontact **printing** polyamidoamine dendrimer multilayer
film pattern; dendritic polyamide polyamine microcontact
printing lithog

IT Thickness
(deposition of patterns of fourth-generation NH₂-terminated
polyamidoamine dendrimer multilayers on silicon wafers by
microcontact **printing**)

IT Silicone rubber, uses
(di-Me, stamp; deposition of patterns of fourth-generation

NH2-terminated polyamidoamine dendrimer multilayers on silicon wafers by microcontact **printing**)

IT Lithography
(microcontact; deposition of patterns of fourth-generation NH2-terminated polyamidoamine dendrimer multilayers on silicon wafers by microcontact **printing**)

IT Polyamines
(**polyamide**-, dendrimers, **amino-terminated**; deposition of patterns of fourth-generation NH2-terminated polyamidoamine dendrimer multilayers on silicon wafers by microcontact **printing**)

IT Dendritic polymers
(**polyamide**-polyamines, **amino-terminated**; deposition of patterns of fourth-generation NH2-terminated polyamidoamine dendrimer multilayers on silicon wafers by microcontact **printing**)

IT **Polyamides**, properties
(polyamine-, dendrimers, **amino-terminated**; deposition of patterns of fourth-generation NH2-terminated polyamidoamine dendrimer multilayers on silicon wafers by microcontact **printing**)

IT 26937-01-9D, PAMAM, amino-terminated
(dendritic; deposition of patterns of fourth-generation NH2-terminated polyamidoamine dendrimer multilayers on silicon wafers by microcontact **printing**)

IT 7440-21-3, Silicon, processes
(wafer; deposition of patterns of fourth-generation NH2-terminated polyamidoamine dendrimer multilayers on silicon wafers by microcontact **printing**)

L37 ANSWER 3 OF 5 HCA COPYRIGHT 2004 ACS on STN
134:214956 Photosensitive polymer composition for letterpress **printing plate**. Taguchi, Yuji; Takahashi, Satoshi; Motoi, Keiichi; Ogi, Koji; Minamimura, Kimiko; Tomita, Akira (Toyobo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001064307 A2 20010313, 4 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1999-238545 19990825.

AB The compn. contains a sol. synthetic polymer, a photopolymn. initiator, and a photopolymerizable unsatd. compd. prep'd. by ring opening addn. reaction of a polyhydric alc. polyglycidyl ether and methacrylic acid (I) and acrylic acid wherein reaction ratio of I is 25-75 mol%. The compn. with high photosensitivity provides a relief pattern with high hardness for letterpress **printing plate**.

IC ICM C08F002-48
ICS C08F002-44; C08F291-00; G03F007-027

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST Section cross-reference(s): 38
 photosensitive polymer compn letterpress **printing plate**; sensitivity photocurable polymer hardness
printing plate; polyol polyglycidyl ether acrylic
 methacrylic acid

IT Polyoxalkylenes, preparation
 (diamino-terminated, polymer with caprolactam and adipic
 acid-hexamethylenediamine copolymer; photosensitive compn. contg.
 polyol polyglycidyl ether (meth)acrylate for letterpress
printing plate with high hardness)

IT **Printing plates**
 (letterpress; photosensitive compn. contg. polyol polyglycidyl
 ether (meth)acrylate for letterpress **printing plate**
plate with high hardness)

IT Polyamides, uses
 (photosensitive compn. contg. polyol polyglycidyl ether
 (meth)acrylate for letterpress **printing plate**
 with high hardness)

IT Polyamides, preparation
 (polymer with diamino-terminated polyethylene glycol and
 caprolactam; photosensitive compn. contg. polyol polyglycidyl
 ether (meth)acrylate for letterpress **printing plate**
plate with high hardness)

IT 105-60-2DP, .epsilon.-Caprolactam, polymer with **amino-terminated** polyethylene glycol and **polyamide**
 107-13-1DP, Acrylonitrile, reaction product with polyethylene
 glycol, hydrogenated, polymer with caprolactam and polyamide
 25322-68-3DP, Polyethylene glycol, diamino-terminated, polymer with
 caprolactam and adipic acid-hexamethylenediamine copolymer
 32131-17-2DP, Nylon 66, polymer with diamino-terminated polyethylene
 glycol and caprolactam 62732-28-9P 72388-07-9P 129152-76-7P,
 Adipic acid-1,3-bis(aminomethyl)cyclohexane-N,N'-
 bisaminopropylpiperazine-.epsilon.-caprolactam copolymer
 329038-86-0P, Adipic acid-N,N'-bis(3-aminopropyl)piperazine-
 hexamethylene diisocyanate-2-methylpentamethylenediamine-
 polyethylene glycol copolymer
 (photosensitive compn. contg. polyol polyglycidyl ether
 (meth)acrylate for letterpress **printing plate**
 with high hardness)

L37 ANSWER 4 OF 5 HCA COPYRIGHT 2004 ACS on STN
 82:58927 Hydrophilic resin. Kimura, Tadashi; Kobayashi, Shigekazu;
 Fukabori, Naoyuki; Nakamoto, Hideo (Mitsubishi Rayon Co., Ltd.).
 Jpn. Tokkyo Koho JP 49018478 B4 19740510 Showa, 4 pp. (Japanese).
 CODEN: JAXXAD. APPLICATION: JP 1970-46915 19700602.

AB Hydrophilic resin compns., useful for manufg. hydrophilic films, are
 prep'd. by reaction of one or more of methacrylic acid chloride and a
 vinyl monomer contg. epoxy group with one or more of amine end

groups-contg. compds., prep'd. from a **polyamide** contg. **amino end groups**, and a diamine contg.

.gtoreq.3 ether linkages. Thus, 416 parts poly(ether diamine), prep'd. from polypropylene glycol and acrylonitrile, and 250 parts poly(ether dicarboxylic acid), prep'd. from polypropylene glycol and succinic anhydride, were heated 7 hr at 180.degree. to give a **polyamide** contg. **amino end**

groups, which was mixed with 105 parts methacrylic acid chloride and 10 parts dimethylaminoethyl methacrylate, and heated 1 hr at 100.degree. to give a compn. contg. vinyl end groups. The compn. was coated (10 .mu.) on a polyethylene film, and irradiated 2.5 sec with electron beams (dose rate 2 MR/sec) to give a hydrophilic film with good **printing** properties.

IC C08G; C08F

CC 36-3 (Plastics Manufacture and Processing)

L37 ANSWER 5 OF 5 HCA COPYRIGHT 2004 ACS on STN

65:57672 Original Reference No. 65:10784b-d **Printing** roller covers. (S.O.R.A.G. Societe de Rouleaux pour Arts Graphiques). BE 655827 19650316, 7 pp. (Unavailable). APPLICATION: BE 19641116.

AB The roller consists of a metallic, cylindrical core to which is cemented a seamless preformed rubber-cotton laminate. The covering is prep'd. by drawing a length of knit cotton tubing over a steel mandrel of the same dimensions as the roll core, coating the fabric with a synthetic rubber cement, and then drawing over it a length of extruded rubber tubing. The assembly is then wrapped and vulcanized, e.g. in a steam autoclave, after which the covering is removed from the mandrel. The covering can be applied immediately to the metallic core, or it can be stored for future use. Thus, to replace an old roller covering, after removal of the latter the surface of the cure is cleaned, preferably by sandpapering. The cotton lining of the covering is satd. with a suitable adhesive, e.g. a 2-part mixt. of (1) a liquid diepoxide resin 3000, MeCOEt 250, and PhMe 250 parts; and (2) an **amine-terminated polyamide** resin 2500, tetraethylenepentamine 150, a tertiary amine catalyst 60, PhMe 400, and MeCOEt 400 parts. The covering is stretched over the core while the adhesive is still moist, and allowed to set overnight or until a firm and tight bond to the metal surface is formed. After this, the cover resists slip, deformation, or displacement from the core.

CC 49 (Rubber and Other Elastomers)

IT Epoxy resins

(adhesives from **amines**, NH₂ group-**terminated polyamides** and, for cotton-urethan rubber laminates for **printing** roller covers)

IT Amines

(adhesives from **amino** group-**terminated polyamides**, epoxy resins and tertiary, for cotton-urethan

rubber laminates for **printing** roller covers)
 IT Laminated products
 (from cotton and urethan rubber, **printing** roller covers
 from)
 IT Cotton
 (laminates with urethan rubber, for **printing** roller
 covers)
 IT **Amides**
 (**poly**-, **amino** group-terminated,
 adhesives from **amines**, epoxy resins and, for
 cotton-urethan rubber laminates for **printing** roller
 covers)
 IT **Printing**
 (roller covers for, **amino** group-terminated
polyamide -epoxy resin adhesives and cotton-urethan
 rubber laminates for)
 IT Rubber, substitute and synthetic
 (urethan polymers as, laminates with cotton, for **printing**
 roller covers)
 IT 112-57-2, Tetraethylenepentamine
 (adhesives from **amines**, NH₂ group-terminated
polyamides, epoxy resins and, for cotton-urethan rubber
 laminates for **printing** roller covers)

=> d 138 1-22 cbib abs hitind

L38 ANSWER 1 OF 22 HCA COPYRIGHT 2004 ACS on STN
 138:386289 Production of amino-terminated polybutadiene by amination of
 hydroxy-terminated polybutadiene. Chao, Herbert Shin-I.;
 Schmidhauser, John; Drexler, Alain Robert; Tian, Nan (USA). U.S.
 Pat. Appl. Publ. US 2003096916 A1 20030522, 5 pp. (English).
 CODEN: USXXCO. APPLICATION: US 2002-300435 20021120. PRIORITY: US
 2001-PV331932 20011121.

AB Prodn. of amine-terminated polybutadiene polymers having one or two
 terminal amine groups comprises amination of a secondary
 hydroxyl-terminated polybutadiene having no ether groups. The
 secondary hydroxyl-terminated polybutadiene having no ether groups
 is produced by polymg. butadiene under anionic polymn. conditions,
 and reacting polybutadiene anion with a C1-C20-alkyl
 group-substituted epoxide. The amination is carried out by direct
 reaction of the secondary hydroxyl-terminated polybutadiene having
 no ether groups with ammonia in the presence of hydrogen and a
 catalyst comprising Cu, Co and/or Ni and a metal oxide. Preferred
 amine-terminated polybutadiene polymers have the formula
 H₂NCHR-(polybutadiene)-CHRNH₂, wherein R is a C1-C20-alkyl group.
 Polyureas, polyurethanes, crosslinked epoxy resins, polyamides, and
 other derivs. with improved properties can be prep'd. using the

amine-terminated polybutadiene polymers. The resultant derivs. are useful in prodn. of liq. binders for braking systems, elec. potting compns., coatings, adhesives, sealants, and water proofing membranes.

IC ICM C08F008-30
 ICS C08F008-04
 NCL 525333200; 525378000; 525338000; 525339000
 CC 37-3 (Plastics Manufacture and Processing)
 IT Adhesives
 Binders
Coating materials
 Membranes, nonbiological
 Potting compositions
 Sealing compositions
 (amino-terminated polybutadiene used in compns. for prodn. of)
 IT Polyamic acids
Polyamides, preparation
 Polyimides, preparation
 Polyureas
 (prepn. of **amino-terminated polybutadiene**
 used in prodn. of)

L38 ANSWER 2 OF 22 HCA COPYRIGHT 2004 ACS on STN

137:110249 Thermoformable, multilayer fluoropolymer-containing film for protecting substrates and objects obtained therewith. Silagy, David; Bussi, Philippe; Bertoux, Franck; Bonnet, Anthony (ATOFINA, Fr.). Eur. Pat. Appl. EP 1225037 A1 20020724, 11 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (French). CODEN: EPXXDW. APPLICATION: EP 2002-290016 20020107. PRIORITY: FR 2001-879 20010122.

AB Coextruded title films with improved adhesion of the fluoropolymer-contg. layer to the other layers have, successively, (A) a fluoropolymer layer, optionally (B) a layer contg. a fluoropolymer or a polymer based on alkyl (meth)acrylates, (C) an **amine-terminated polyamide** layer, (D) an unsatd. acid-modified polyolefin layer, and, optionally, (E) a polyolefin layer. Optionally, an ink layer is deposited between layers (A) and (B).

IC ICM B32B027-34
 ICS B32B027-30; B32B027-32; B32B027-28
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 42
 ST fluoropolymer coextruded multilayer covering film; **amine terminated polyamide** coextruded multilayer covering film; unsatd acid modified polyolefin coextruded multilayer covering film; alkyl methacrylate polymer coextruded multilayer covering film

IT **Coating materials**

(multilayer; multilayer films with improved adhesion of fluoropolymer-contg. layers for thermally pressing onto substrates)

L38 ANSWER 3 OF 22 HCA COPYRIGHT 2004 ACS on STN

130:353690 Polyamide curing agents based on mixtures of polyethyleneamines and piperazine derivatives. Walker, Frederick Herbert; Starner, William Edward; Smith, Andrea Karen (Air Products and Chemicals, Inc., USA). Eur. Pat. Appl. EP 918071 A1 19990526, 20 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-121854 19981117. PRIORITY: US 1997-974284 19971119.

AB Coating compns. of **amine-terminated**

polyamide resins useful for curing epoxy resins comprise combinations of fatty mono-acids, dimer acids, polyethyleneamines, and piperazine ring-contg. polyamines having an NH functionality 2 or 3/mol selected from piperazine, or N-aminoalkylpiperazine, where the alkyl chain is C2-6-alkyl, where the ratio of equiv. of fatty mono-acid to dimer acid .apprx.0.001-1:1, the ratio of moles of piperazine ring contg. polyamine to polyethylene amine .apprx.0.1-1:1, and the ratio of moles of polyamine to equiv. of acid .apprx.0.6-1.2:1. Thus, the reaction product of dimer acid 295, tall oil fatty acid 56.05, aminoethylpiperazine 153.5 gave a polyamide having NH equiv wt. 406.1 and amine value 265.8 mg KOH/g.

IC ICM C08L063-00

ICS C08L077-08; C08G069-34; C09D163-00

CC 42-3 (Coatings, Inks, and Related Products)

IT **Coating materials****Coating materials**

(impact-resistant; polyamide curing agents based on mixts. of polyethyleneamines and piperazine derivs. for epoxy resins)

L38 ANSWER 4 OF 22 HCA COPYRIGHT 2004 ACS on STN

127:162557 Hardenable epoxy resin composition containing amino polyamides and its use. Corley, Larry Steven; Kincaid, Derek Scott; Young, Glenda Carole (Yuka Shell Epoxy Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09165493 A2 19970624 Heisei, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-292995 19961105. PRIORITY: US 1995-558357 19951116.

AB The title compns. contain epoxy resins contg. .gtoreq.1.5 epoxy groups/mol., liq. **amine-terminated**

polyamides prep'd. from aminoalkylpiperazines and C18-50 dicarboxylic acids, and water. The polyamines are provided as stable aq. dispersions. A polyamine was prep'd. from a dimer acid (10 % C18 monoacid, 80% C36 diacid, 10% C54 triacid) and N-(2-aminoethyl)piperazine, and was used as a hardening agent in an

IC aq. compn. contg. Heloxy 9 and Epirez WD510.
ICM C08L063-00
ICS C08G059-50; C09D163-00
CC 37-6 (Plastics Manufacture and Processing)
IT **Polyamides**, preparation
(**amine-terminated**; hardenable epoxy resin
compn. contg. amino polyamides and its use)
IT **Coating materials**
Crosslinking agents
(hardenable epoxy resin compn. contg. amino polyamides and its
use)

L38 ANSWER 5 OF 22 HCA COPYRIGHT 2004 ACS on STN
127:149777 Curable epoxy compositions containing **amine-terminated polyamides** for prepregs and coatings.
Colley, Larry Steven; Eirich, Martin L. (Yuka Shell Epoxy Co., Ltd.,
Japan). Jpn. Kokai Tokkyo Koho JP 09165494 A2 19970624 Heisei, 15
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-292996
19961105. PRIORITY: US 1995-558359 19951116.

AB Title compns. comprise (1) an epoxy resin having .gtoreq.1.5 epoxy
groups per mol. and (2) a liq. **amine-terminated polyamide** prep'd. by the reaction of aminoalkylpiperazine
with C18-50 dicarboxylic acids. Epoxy resin Epon 828 contg. 110 phr
of a curing agent prep'd. by the reaction of N-(aminoethyl)piperazine
and dimer acid was applied on a steel plate and dried to give a
48-.mu.m coating film with pencil hardness 6B after 24 h.
IC ICM C08L063-00
ICS C08G059-50; C09D163-00
CC 37-6 (Plastics Manufacture and Processing)
IT Alcohols, uses
(C12-13, Neodol 23; curable epoxy compns. contg. **amine-terminated polyamides** for prepregs and
coatings)
IT Fatty acids, preparation
(C18-unsatd., dimers, Epol 1014, reaction products with
aminoalkylpiperazine; curable epoxy compns. contg. **amine-terminated polyamides** for prepregs and
coatings)
IT Polyamides, preparation
(amino-contg.; curable epoxy compns. contg. **amine-terminated polyamides** for prepregs and
coatings)
IT Polyamide fibers, uses
(aramid, substrate for prepregs; curable epoxy compns. contg.
amine-terminated polyamides for
prepregs and coatings)
IT **Coating materials**
Crosslinking agents

(curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT Epoxy resins, uses
(curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT Polyamides, preparation
(dimer acid-based, amine-terminated; curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT Tall oil
(reaction products, with aminoalkylpiperazine; curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT Glass fibers, uses
Polyamides, uses
Polyesters, uses
(substrate for prepgs; curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT 123-99-9DP, Nonanedioic acid, reaction products with aminoalkylpiperazine, preparation
(Empol 1144; curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT 140-31-8DP, 1-Piperazineethanamine, reaction products with acids
6531-38-0DP, N,N'-Bis(2-aminoethyl)piperazine, reaction products with acids
7209-38-3DP, 1,4-Piperazinedipropanamine, reaction products with acids
(curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT 25068-38-6, Epon 828 30401-87-7, Heloxy 32 54847-49-3, Heloxy 68
82029-76-3, Epon 8132 146246-76-6, Heloxy 107
(curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

IT 7782-42-5, Graphite, uses
(substrate for prepgs; curable epoxy compns. contg. **amine-terminated polyamides** for prepgs and coatings)

L38 ANSWER 6 OF 22 HCA COPYRIGHT 2004 ACS on STN

122:240755 Polyamide-polyimide-polysiloxanes, their manufacture, and compositions containing them. Sakumoto, Yukinori; Hashimoto, Takeshi; Kobayashi, Masaharu; Tagami, Toshio; Nakanishi, Takayuki (Tomoegawa Paper Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06271673 A2 19940927 Heisei, 17 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1993-85151 19930322.

AB Polyamide-polyimide-siloxane polymers with wt.-av. mol. wt. 1000-50,000 contain 0.1-99.9% polyamide-polyimide structural units

and 0.1-99.9% polyimide-siloxane units and are manufd. by polymg. **amino group-terminated polyamides** with wt.-av. mol. wt. 500-15,000, amino group-terminated siloxanes with wt.-av. mol. wt. 200-7,000, and tetracarboxylic dianhydrides. Compns. contain the **polyamide-polyimide-siloxane polymers**, **amino group-terminated dimethylsiloxanes**, and compds. contg. .gtoreq.2 maleimide group are useful as insulators, adhesives, and coating material.

IC ICM C08G073-14

ICS C08G077-455

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37, 42, 76

IT **Coating materials**

(polyamide-polyimide-polysiloxanes, their manuf., and compns. contg. them)

L38 ANSWER 7 OF 22 HCA COPYRIGHT 2004 ACS on STN

122:240754 Polyamide-polyimide-siloxane polymers, their manufacture, and compositions containing them. Sakumoto, Yukinori; Hashimoto, Takeshi; Kobayashi, Masaharu; Tagami, Toshio; Nakanishi, Takayuki (Tomoegawa Paper Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06271674 A2 19940927 Heisei, 19 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1993-85152 19930322.

AB Polyamide-polyimide-siloxane polymers with wt.-av. mol. wt. 1000-50,000 contain 0.1-99.8% polyamide-polyimide structural units, 0.1-99.8% polyimide units, and 0.1-99.8% polyimide-siloxane units and are manufd. by polymg. **amino group-terminated polyamides** with wt.-av. mol. wt. 500-15,000, amino group-terminated siloxanes with wt.-av. mol. wt. 200-7,000, diamines with mol. wt. 50-1,000, and tetracarboxylic dianhydrides. Compns. contain the **polyamide-polyimide-siloxane polymers**, **amino group-terminated dimethylsiloxanes**, and compds. contg. .gtoreq.2 maleimide group are useful as insulators, adhesives, and coating material.

IC ICM C08G073-14

ICS C08G073-10; C08G077-455

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37, 42

IT **Coating materials**

(polyamide-polyimide-siloxane polymers, their manuf., and compns. contg. them)

L38 ANSWER 8 OF 22 HCA COPYRIGHT 2004 ACS on STN

116:22997 Photocurable aromatic polyamide oligomer-maleimide compositions. Takiyama, Eiichiro; Hosogane, Tadayuki (Showa Highpolymer Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03084018 A2 19910409 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-221105 19890828.

AB The title compns., useful for heat-resistant coatings and inks, comprise $\text{H}_2\text{C:CRCO(NHR}_1\text{NHCOR}_2\text{CO)}_n\text{NHR}_1\text{NHCOCR:CH}_2$ ($\text{R} = \text{H, Me; R}_1, \text{R}_2 =$ divalent arom. group; $n = 1-15$), maleimide derivs., and photoinitiators. Thus, 0.083 mol isophthaloyl chloride was treated dropwise with 0.1 mol 3,4'-diaminodiphenyl ether and then with 0.033 mol methacryloyl chloride in DMF in the presence of Et₃N at 110° to give oligomer (I; av. d.p. 5) with m.p. 145-160°, 5 g of which was dissolved in THF/DMF together with 5 g N,N'-diphenylbismaleimide and Darocur 1173, applied to a Cu foil, dried, and cured with UV to form a film with pencil hardness 3H and good solder heat and solvent resistance.

IC ICM C08F299-02

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 35

IT **Coating materials**
 (photocurable, (meth)acryloyl-terminated arom. polyamide oligomers and maleimide derivs., heat- and solvent-resistant)

IT 814-68-6DP, Acryloyl chloride, reaction products with **amine-terminated** arom. **polyamide** oligomers, polymers with maleimide derivs. 920-46-7DP, Methacryloyl chloride, reaction products with **amine-terminated** arom. **polyamide** oligomers, polymers with maleimide derivs. 941-69-5DP, N-Phenylmaleimide, polymers with (meth)acryloyl-terminated arom. polyamide oligomers 25214-70-4DP, Aniline-formaldehyde copolymer, maleimides, polymers with (meth)acryloyl-terminated arom. polyamide oligomers 26403-81-6DP, reaction products with acryloyl chloride, polymers with maleimide derivs. 36928-37-7DP, 3,3'-Diaminodiphenyl sulfone-isophthaloyl chloride copolymer, reaction products with methacryloyl chloride, polymers with maleimide derivs. 39459-76-2DP, reaction products with acryloyl chloride, polymers with maleimide derivs. 90597-57-2DP, reaction products with acryloyl chloride, polymers with maleimide derivs. 131788-48-2DP, 3,4'-Diaminodiphenyl ether-isophthaloyl chloride copolymer, reaction products with (meth)acryloyl chloride, polymers with maleimide derivs. 135422-13-8DP, reaction products with acryloyl chloride, polymers with maleimide derivs. 138264-03-6DP, polymers with (meth)acryloyl-terminated arom. polyamide oligomers (prepn. of, coatings, UV-cured, heat- and solvent-resistant)

L38 ANSWER 9 OF 22 HCA COPYRIGHT 2004 ACS on STN

115:234837 Photocurable aromatic polyamide oligomer compositions.

Takiyama, Eiichiro; Hosogane, Tadayuki (Showa Highpolymer Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03084017 A2 19910409 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-221104 19890828.

AB The title compns., useful for heat-resistant coatings and inks, comprise $\text{H}_2\text{C:CRCO(NHR}_1\text{NHCOR}_2\text{CO)}_n\text{NHR}_1\text{NHCOCR:CH}_2$ ($\text{R} = \text{H, Me; R}_1, \text{R}_2 =$

divalent arom. group; n = 1-15) and photoinitiators. Thus, 0.083 mol isophthaloyl chloride was treated dropwise with 0.1 mol 3,4'-diaminodiphenyl ether and then with 0.033 mol methacryloyl chloride in DMF in the presence of Et₃N at 100°C to give oligomer (I; av. d.p. 5) with m.p. 145-160°C, which was dissolved in DMF together with Darocur 1173, applied to a Cu foil, dried, and cured with UV to form a film with pencil hardness 3H and good solder heat and solvent resistance.

IC ICM C08F299-02

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 35

IT **Coating materials**

(photocurable, (meth)acryloyl-terminated arom. polyamide oligomers, heat- and solvent-resistant)

IT 88-12-0DP, polymers with (meth)acryloyl-terminated arom. polyamide oligomers 814-68-6DP, Acryloyl chloride, reaction products with **amine-terminated** arom. **polyamide**

oligomers, polymers 920-46-7DP, Methacryloyl chloride, reaction products with **amine-terminated** arom.

polyamide oligomers, polymers 26403-81-6DP, oligomers, reaction products with acryloyl chloride, polymers with vinylpyrrolidone 36928-37-7DP, 3,3'-Diaminodiphenyl sulfone-isophthaloyl chloride copolymer, reaction products with methacryloyl chloride, polymers with bisphenol S-ethylene oxide adduct diacrylate 39459-76-2DP, oligomers, reaction products with acryloyl chloride, polymers with vinylpyrrolidone 90597-57-2DP, oligomers, reaction products with acryloyl chloride, polymers with vinylpyrrolidone 90603-93-3DP, polymers with (meth)acryloyl-terminated arom. polyamide oligomers 131788-48-2DP, 3,4'-Diaminodiphenyl ether-isophthaloyl chloride copolymer, reaction products with (meth)acryloyl chloride, polymers 135422-13-8DP, oligomers, reaction products with acryloyl chloride, polymers with vinylpyrrolidone

(prepn. of, coatings, UV-cured, heat- and solvent-resistant)

L38 ANSWER 10 OF 22 HCA COPYRIGHT 2004 ACS on STN

113:134267 Polyamide blends for powder coatings. Suzuki, Hajime (Daicel Huels, Ltd., Japan). Ger. Offen. DE 3934632 A1 19900419, 5 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1989-3934632 19891017. PRIORITY: JP 1988-262130 19881018.

AB The title compns., which are stable, easily prep'd. and cover corners well, contain polyamides bearing >70% terminal CO₂H groups and polyamides bearing >70% terminal amino groups. Nylon 12 with CO₂H equiv. 493 mequiv/kg and amino equiv. 12 mequiv/kg and nylon 12 with CO₂H equiv 14 mequiv/kg and amino equiv. 453 mequiv/kg (prep'd. by hydrolytic polyrn. of laurolactam in the presence of dodecanedioic acid and 1,6-hexanediamine, resp.) were mixed (50 parts each) with 5 parts TiO₂ and 1.0 part stabilizer, ground to

particle size <60 mesh, mixed with 20 phr 1% H3PO4, left 5 h at 60.degree., and heated 20 h at 150.degree. (relative soln. viscosity 1.61). A 3-mm Fe plate heated to 350.degree. was coated with 3 mm this compn. from a fluidized bed and cooled in water to give a film through which no corners projected.

IC ICM C08L077-00
 ICS C08G069-06; C09D005-03; C09D177-00
 ICA C09D005-46
 ICI C08J003-12, C08L077-00
 CC 42-10 (Coatings, Inks, and Related Products)
 ST polyamide blend powder coating; nylon 12 powder coating; carboxyl terminated polyamide coating; **amine terminated**
 polyamide coating
 IT **Coating materials**
 (powder, **amino-** and carboxyl-**terminated**
 polyamide blends, giving good corner coverage)

L38 ANSWER 11 OF 22 HCA COPYRIGHT 2004 ACS on STN
 104:225790 Reactive composition based on polyamide oligomers and epoxy resins. Cuzin, Daniel (Atochem S. A., Fr.). Eur. Pat. Appl. EP 174225 A1 19860312, 43 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (French). CODEN: EPXXDW. APPLICATION: EP 1985-401542 19850726. PRIORITY: FR 1984-13244 19840827.
 AB Reactive compns. contain at least an epoxy resin and oligomeric polyamides (400-10,000 mol. wt.) derived from primary monoamines, primary or secondary .alpha.,.omega.-diamines, .alpha.,.omega.- diacids, and/or .omega.-aminoalkanoic acids, all preferably having a C4-14 hydrocarbon chain. The polyepoxides are diglycidyl ethers of bisphenol A and/or polypropylene glycol'.alpha.,.omega.-diepoxides, all in a 300-2100 mol. wt. range with epoxide indexes 150-1100. Thus, a 100-L autoclave was charged with 30 kg 11-aminoundecanoic acid, 30 L H2O, and 3.1 kg adipic acid, and purged with N (5 bars abs.) five times. The mixt. was heated to 180.degree. for 1 h and a pressure of 8.5 bars abs. obtained. The water was progressively vented off, lowering the pressure to 1 atm in 50 min. The reaction temp. was held at 200.degree. for 1 h under a N sweep of 0.5 m3/h, the product was collected in a steel vat contg. cold water and dried 20 h at 80.degree. under vacuum. The av. mol. wt. was 1460. This oligoamide (370 g) and 120 g Epikote 828 were mixed at an epoxide/acid ratio of 1.25 and heated to 180.degree. (15 min), and a pale yellow liq. was obtained. A disk pressed from this material showed tensile strength 36 MPa, elongation at break 230%, flexural modulus (20.degree.) 1210 MPa, and Shore D hardness 74.
 IC ICM C08L063-00
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 42
 IT **Coating materials**
 (amine-terminated oligomeric

IT polyamide-epoxy compns., manuf. of)
 Polyamides, uses and miscellaneous
 (amine-terminated, oligomeric, compns. with
 epoxy resins, for extrusion or molding)

L38 ANSWER 12 OF 22 HCA COPYRIGHT 2004 ACS on STN
 99:141665 Alcoholic solutions of high polymers and their use for coating leather. Stutz, Herbert; Reimann, Horst; Eckert, Guenter (BASF A.-G., Fed. Rep. Ger.). Ger. Offen. DE 3202301 A1 19830728, 15 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1982-3202301 19820126.

AB Alc. solns. of **amine-terminated**, low-mol. wt.
Polyamides are polymd. with equiv. amts. of diisocyanates to increase their intrinsic viscosity (IV) to >1.5 dL/g, giving coatings for leather. Thus, stirring caprolactam 40, 1,6-hexanediamine adipate 20, 4,4'-methylenedicyclohexanamine 29.1, and dodecanedioic acid 20.9 parts with 30% H₂O 1 h at 270.degree./20 bar, 2 h at 270.degree./20 bar-1 atm, and 3 h at 270.degree. gave a polyamide, mol. wt. 2500, with amine and acid content 800 and 12 mequiv/kg, resp. Stirring this polyamide 270, MeOH 540, PhMe 540, EtOH 450, and isophorone diisocyanate 23.75 parts 1 h at room temp. gave a soln. (viscosity 5.2 Pa-s at 25.degree.) of copolymer [87366-14-1] with IV (2:3 C₆H₄Cl₂-PhOH, 25.degree.) 2.3 dL/g. This soln. was dild. 2.5-fold with mixed solvent and coated at 6 g solids/m³ on goat leather to give a coating with high gloss, a smooth, pleasant hand, Bally Flexometer resistance .gtoreq.25,000 folds, and adhesion 280 g/cm.

IC C08L077-00; C08K005-29; C08J003-08; C08J003-24; C14C011-00

CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 45

IT **Coating materials**
 (polyamide-polyureas, alc.-sol., for leather)

L38 ANSWER 13 OF 22 HCA COPYRIGHT 2004 ACS on STN
 98:199955 Curable resin compositions. (Dainippon Ink and Chemicals, Inc., Japan; Kawamura Physical and Chemical Research Institute). Jpn. Kokai Tokkyo Koho JP 57202317 A2 19821211 Showa, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-87535 19810609.

AB Low-temp.-curable resin compns. having good adhesion contain compds. having ethylene carbonate groups and **amino** group-**terminated polyamides**. Thus, 2:1 glycerin carbonate-TDI adduct (I) 100, Lackamide TD-966H 100, EtOAc 50, xylene 30, and MEK 20 parts were mixed, coated on a tinplate, and dried 4 days at 10.degree. to prep. a coating having better adhesion than a coating using Epiclon 850 in place of I.

IC C08G059-20

ICA C08L077-00

CC 42-10 (Coatings, Inks, and Related Products)
 Adhesives

Coating materials

(ethylene carbonate deriv. compns. contg. polyamide,
low-temp.-curable)

L38 ANSWER 14 OF 22 HCA COPYRIGHT 2004 ACS on STN
96:8313 Epoxy-elastomer low-temperature-curable, solventless, sprayable,
stator winding adhesive-bracing compositions. Mendelsohn, Morris A.
(Westinghouse Electric Corp. , USA). U.S. US 4298656 A 19811103, 9
pp. (English). CODEN: USXXAM. APPLICATION: US 1980-134730
19800328.

AB A sprayable, solventless, bracing coating compn. for turbine
generator stator windings comprises a mixt. of bisphenol A epoxy
resin, pigment, thixotropic agent, amino-terminated liq. butadiene
rubber, and an amine-terminated curing agent. Thus, DER 332
[25085-99-8] 95, neopentyl glycol diglycidyl ether [17557-23-2] 5,
Fe2O3 5.7, and fumed SiO₂ thixotropic agent 1.4 parts were mixed,
and a mixt. of Hycar ATBN 1300 .times. 16 (amino-
terminated nitrile rubber) 150, polyamide
polyamine curing agent 30, and Anchor 1170 (BF3-amine complex)
co-curing agent 4 parts was added. Specimens, molded 16 h at
100.degree., had viscosity 20,000 cPs at 25.degree., days to
cracking on bending around a 2-in. mandrel 395-400, wt. loss after
50 days aging 1.0, and Shore D Hardness after 20 days 54, compared
with 48,500, 80-90, 1.7, and 39, resp., for similar specimens not
contg. SiO₂.

IC C08L063-02

NCL 428414000

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating materials**

(epoxy-elastomer, for adhesive-bracing stator windings)

L38 ANSWER 15 OF 22 HCA COPYRIGHT 2004 ACS on STN
87:119386 Heat-resistant polyurea urethane resin coating compositions.
Okubo, Noriyoshi; Shirahata, Isao; Kitamura, Nobu (Furukawa Electric
Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 52059632 19770517
Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1975-135174 19751112.

AB NH₂-terminated imide and amide linkage-contg. resins are treated
with alkylene carbonates or oxides, and the N-(hydroxyalkyl)amino
group-terminated resins are mixed with polyisocyanates to give
heat-resistant polyurea-urethane resin coating compns. Thus, a
mixt. of trimellitic anhydride 154, 2,4-tolylendiamine 146, and
solvent naphtha 250 g was heated at 195.degree., and the product
treated at 180.degree. with 70 g ethylene carbonate [96-49-1] to
give a solid material, which was dissolved in cresol to give a
N-(hydroxyethyl)amino group-terminated
polyamide-polyimide resin soln. (30% solids). The resin
soln. (100 g) was mixed with 600 g of a soln. comprising 200 g

4,4'-diphenyl ether diisocyanate [4128-73-8] and 400 g cresol, and the resultant coating compn. was coated on a Cu wire and baked at 400.degree. to give a 40-.mu.-thick heat- and abrasion-resistant pinhole-free smooth coating (breakdown voltage 12.8 kV).

IC C09D003-72

CC 42-3 (Coatings, Inks, and Related Products)

IT **Coating materials**

(polyamide-polyimide-polyurethanes, for elec. wires)

L38 ANSWER 16 OF 22 HCA COPYRIGHT 2004 ACS on STN

82:141724 Polyhydantoin wire-coating materials. Hosokawa, Etsuo; Waki, Misao; Fukushima, Masatada (Showa Electric Wire and Cable Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 49092197 19740903 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1972-100513 19721006.

AB **Amine-terminated poly(amide**

imides) derived from tetracarboxylic acids, tricarboxylic acids, and diamines are treated with ClCH₂CO₂H followed by diisocyanates to give poly(imide hydantoins). The products have good solv. and are useful as wire-coating materials. Thus, a mixt. of 3,3',4,4'-benzophenonetetracarboxylic dianhydride 322, 3,3'-diaminodiphenyl sulfone 198.4, 4,4'-diaminodiphenyl ether 160, and m-cresol 3000 g was heated 1 hr at 160.degree. to give polyimide having d.p. 4. The above product (0.3 mole) was treated with 0.6 mole ClCH₂CO₂H in 1500 g m-cresol at 180.degree. for 2 hr, 0.3 mole diphenylmethane 4,4'-diisocyanate in 500 g m-cresol was added, and the mixt. heated 2 hr addnl. The copolymer [54626-74-3] soln. was dild. to 20% solids with m-cresol and applied to a wire and baked to give a magnet wire with good resistance to heat, heat shock, voltage, alkali, and Freon 22. Similarly prep'd. were 3,3',4,4'-benzophenonetetracarboxylic dianhydride-chloroacetic acid-4,4'-diaminodiphenyl ether-3,3'-dimethyl-4,4'-diaminodiphenylmethane-pyromellitic dianhydride-tolylene diisocyanate copolymer [54649-89-7] and 2 other poly(imide hydantoins).

NCL 26(5)G13; 26(5)E131.2; 16C831

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating materials**

(poly(hydantoin imides), on wires)

L38 ANSWER 17 OF 22 HCA COPYRIGHT 2004 ACS on STN

81:65337 Recent developments in the field of electrostatic powder coating. Obendorf, Johann (Anwendungstech., Veba-Chemie A.-G., Gelsenkirchen-Buer, Fed. Rep. Ger.). DEFAZET - Deutsche Farben-Zeitschrift, 28(3), 108-16 (German) 1974. CODEN: DFZTBF. ISSN: 0012-009X.

AB Several properties of epoxy resin powder coatings crosslinked by **amine-terminated polyamides** from diacids and isophoronediamine (I, R = NH₂) [2855-13-2] were compared with

those of similar coatings crosslinked by dicyandiamide [461-58-5]-based crosslinkers and with those of polyurethane powder coatings based on isophorone diisocyanate (I, R = NCO) [4098-71-9].

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating materials**

(electrostatic powder, epoxy and polyurethane, contg. isophorone derivs.)

IT Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, **polyamides** (amine-terminated, crosslinking agents, for epoxy resin in electrostatic powder coatings)

L38 ANSWER 18 OF 22 HCA COPYRIGHT 2004 ACS on STN 80:61180 Aromatic amide-imide polymers. (Westinghouse Electric Corp.). Brit. Amended GB 1032649 19660615, 10 pp. (English). CODEN: BSXXAH. PRIORITY: US 1963-330054 19631212.

AB Alkali-resistant, elec. insulating, flexible, oxidatively and thermally stable, tough polyamide-imides for films and wire enamels were manufd. from trimellitic anhydride chloride or an alkyl deriv. and an arom. diamine or an **amine-terminated** intermediate **polyamide**. Thus, m-C₆H₄(NH₂)₂ 703, isophthaloyl chloride 915, terephthaloyl chloride 305 g stirred 1 hr gave 4286 g resin intermediate 30 g of which was stirred with 0.906 g trimellitic anhydride chloride and 0.5 g NET₃ to give, with addn. of AcNMe₂, a 17.8% solids soln. of isophthaloyl chloride-m-phenylenediamine-terephthaloyl chloride-trimellitic anhydride chloride copolymer [50862-54-9]. A clear flexible 2 mil thick film was stripped from an Al substrate after baking the polymer soln. 2 hr at 150.deg.. 3,4'-Diaminobenzanilide-monoethyl trimellityl dichloride copolymer [50862-57-2] was coated at 50 ft/min onto a wire and cured 30 min at 150.deg. to give a coating scrape abrasion value 132.

IC C08G; B29D; B32B; B44D

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating materials**

(polyamide-imides, elec. insulating)

L38 ANSWER 19 OF 22 HCA COPYRIGHT 2004 ACS on STN 79:79756 Silyl-substituted urea derivatives. Wagner, Kuno; Oertel, Guenter; Goelitz, Hans Dieter; Quiring, Bernd (Bayer A.-G.). Ger. Offen. DE 2155260 19730510, 31 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1971-2155260 19711106.

AB Stable, moisture-curing compns. are prep'd. by adding a 78.8:21.2 mixt. of 1-cyclohexyl-4,4-diethoxy-3-(6-isocyanatohexyl)-4-sila-2-imidazolidinone (I) [39922-78-6] and 1-cyclohexyl-4,4-diethoxy-3-[6-(ethoxycarbonylamino)hexyl]-4-sila-2-imidazolidinone (II) [39922-80-0] to an amino-terminated polyurethane-polyurea, a ricinoleic acid triglyceride-methoxymethyl isocyanate reaction product, an epoxy resin-methoxymethyl isocyanate reaction product,

an **amino-terminated polyamide**, or a similar polymer. The compns. react with water to give foams, coatings, and films having good light stability and mech. properties. Thus, a prepolymer prep'd. from poly(butylene adipate) (OH no. 52) 110, a 30:22:12 adipic acid-hexanediol-neopentyl glycol copolymer (OH no. 66) 81, and isophorone diisocyanate 44.4 parts is mixed with 100 parts toluene, treated during 20 min with 22 parts isophoronediamine in 1102 parts 1:1 toluene-tert-BuOH, treated slowly with 29 parts 78.8:21.2 I-II mixt. in 28 parts toluene, and hardened to prep. a light-stable foam. The I-II mixt. is prep'd. from 1 mole (cyclohexylamino)methyltriethoxysilane and 6 moles OCN(CH₂)₆NCO with distn. at 140.deg..

IC C07D

CC 36-3 (Plastics Manufacture and Processing)

IT **Coating materials**

(urethane polymers, light-resistant)

L38 ANSWER 20 OF 22 HCA COPYRIGHT 2004 ACS on STN

77:7477 Producing polyamide coating materials by end capping. Peterson, Marvin A. (General Electric Co.). U.S. US 3652500 19720328, 9 pp. (English). CODEN: USXXAM. APPLICATION: US 1969-851835 19690821.

AB Amine-endcapping the terminal positions of polyorthoamic acid prepolyimide improved their insulation properties when used for coating magnet wires. Thus, 6954 g 3,3',4,4'-benzophenonetetracarboxylic dianhydride (I) [2421-28-5] and 2132 g p,p'-methylenedianiline (II) [101-77-9] reacted in 53,170 g N-methyl-2-pyrrolidone (III) to give a polyorthoamic acid polyimide prepolymer having an imidization level 1.8%. The prepolyimide was treated with addnl. 92.5 g I in 1000 g III at 40.deg., 1000 g of the product was treated with 0.076 g II in 20 g III for 5 min at .sim.38.deg., the soln. applied on a tin plate, heated at 180.deg. and 210.deg., and cured at 260.deg. to give a film which showed no loss in elongation when exposed to high thermal stresses, as compared to the uncapped polyimides.

IC C08G

NCL 260065000

CC 42-10 (Coatings, Inks, and Related Products)

IT Heat-resistant materials

(amino group-terminated polyamides,
for coatings)IT **Coating materials**(polyamides, amino group-terminated
, heat-resistant)

L38 ANSWER 21 OF 22 HCA COPYRIGHT 2004 ACS on STN

72:32876 Adhesively bonding heavy metals. Salyer, Ival O.; Glasgow, David G. (United States Atomic Energy Commission). U.S. US 3481814 19691202, 3 pp. (English). CODEN: USXXAM. APPLICATION: US

1966-570759 19660808.

AB Easily-tarnished heavy metals were bonded together by priming their surfaces with an epoxyalkanoic acid or an epoxyalkanol phosphoric acid ester, and then bonding the primed surfaces with an epoxy resin adhesive. The primers protected the metal surfaces from rapid oxidn. and promoted adhesion. Thus, U plates were pickled in 50% HNO₃, rinsed in acetone, placed in a dish, and covered with 410 ml 50% HNO₃ and a film-forming mixt. of 1 g 10,11-epoxyundecanoic acid (I) in 10 ml acetone. The plates were pulled through the I film, washed, and bonded with an adhesive contg. 6 g epoxy resin (prepd. from bisphenol A and epichlorohydrin) and 4 g **amine-terminated polyamide**. An other primed plate was placed on the adhesive; the lap joint was pressed (50 psi) overnight and stored 18 days at 60.degree. and 80% relative humidity to give tensile shear strength 2680 psi. Similar protective films were prepd. from 9,10-epoxystearic acid, tris(2,3-epoxypropyl) phosphate (II), and epoxytetrahydrophthalic anhydride, instead of I, and produced U-to-U shear strengths of 2227, 3326 and 835 psi, resp. Similar lap joints prepd. without II had shear strengths of 800 and 612 psi. Similar bonding systems for Fe, Cu, W, Ag, Sn, and Th were also cl aimed.

IC C09J; B32B

NCL 156314000

CC 37 (Plastics Fabrication and Uses)

IT **Coating materials**

(primers, epoxyalkanoic acids, on uranium for improved adhesion)

L38 ANSWER 22 OF 22 HCA COPYRIGHT 2004 ACS on STN

68:88280 Coating submerged pile structures to prevent corrosion.

Wiswell, George C., Jr. U.S. US 3370998 19680227, 2 pp. (English).
CODEN: USXXAM. APPLICATION: US 1963-330981 19631216.

AB Pile structures that are under water part of the time are coated to prevent corrosion by first sandblasting the corroded exterior, prepg. an epoxy resin-polyamide curing agent mixt. on a carrier sheet, securing this coated sheet to a plate so that the sheet and plate can be applied to the pile, and allowing the resin material to bond to the surface, after which the plate is removed. The preferred epoxy resin is Epon 828 or UC 3-32545 and the preferred curing agent is an **amine-terminated polyamide** resin, e.g. UC 3-32546.

NCL 156071000

CC 42 (Coatings, Inks, and Related Products)

IT **Coating process**

(of submerged pile structures with epoxy resin-polyamide, corrosion -resistant)